ARIZONA PUBLIC SERVICE COMPANY

ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT FOR 2022

COAL COMBUSTION RESIDUALS RULE GROUNDWATER MONITORING SYSTEM COMPLIANCE

JANUARY 31, 2023

Please be advised that, effective September 21, 2022, Wood Environment & Infrastructure Solutions, Inc. Was acquired by WSP. Due to the acquisition, we have changed our name to WSP USA Environment & Infrastructure Inc. No other aspects of our legal entity or capabilities have changed for this report, including our Federal Tax ID which remains 91-1641772. Correspondence for this report should continue to be addressed to the undersigned.

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ARIZONA PUBLIC SERVICE COMPANY

FOUR CORNERS POWER PLANT
FRUITLAND, NEW MEXICO

PROJECT NO.: 1420222006
DATE: JANUARY 31, 2023

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ACRONYMS AND ABBREVIATIONS

%	percent
ACM	Assessment of Corrective Measures
AECOM	AECOM Technical Services, Inc.
Annual Report	Annual Groundwater Monitoring and Corrective Action Report for 2022
amsl	above mean sea level
APS	Arizona Protection Agency
ASD	Alternative Source Demonstration
BTV(s)	background threshold value(s)
CCR	coal combustion residuals
CCR Units	CCR landfills and surface impoundments
CFR	Code of Federal Regulations
CSM	Conceptual Site Model
CWTP	Combined Waste Treatment Pond
DFADA	Dry Fly Ash Disposal Area
EDA	Exploratory Data Analysis
FCPP	Four Corners Power Plant
FGD	flue gas desulfurization
ft	foot, feet
gpd	gallons per day
GWPS(s)	groundwater protection standard(s)
LAI	Lined Ash Pond
LDWP	Lined Decant Water Pond
memo(s)	memorandum
mg/L	milligrams per liter
Multiunit 1	CCR Multiunit comprised of LAI and LDWP
NIT	Northern Intercept Trench
NPDES	National Pollutant Discharge Elimination System
pCi/L	picocurries per liter
Radiation Safety	Radiation Safety Engineering, Inc.
RWP	Return Water Pond
SAP	Sampling and Analysis Plan

SDAWP	Statistical Data Analysis Work Plan
SIT	Southern Intercept Trench
Site	Four Corners Power Plant
SSI(s)	statistically significant increase(s)
SSL(s)	statistically significant level(s)
TestAmerica	Eurofins TestAmerica Laboratories, Inc.
URS	Upper Retention Sump
URT	Upper Retention Tank
USEPA	United States Environmental Protection Agency
WSP	WSP USA Environment & Infrastructure, Inc.

GROUNDWATER MONITORING AND CORRECTIVE ACTION PROGRAM OVERVIEW

Facility Name:	Arizona Public Service Company Four Corners Power Plant	Annual Report Date:		1/31/2023
Location:	Fruitland, New Mexico	Reporting Period:		1/1/2022 – 12/31/2023
Groundwater Monitoring Program Status				
CCR Unit	Status at Beginning of Reporting Period	Status at End of Reporting Period	Date(s) of Any Program Transitions	Comments
Combined Waste Treatment Pond (CWTP)	Detection Monitoring	Detection Monitoring	NA	-
Dry Fly Ash Disposal Area (DFADA)	Detection Monitoring	Detection Monitoring	NA	-
Return Water Pond (RWP)	Detection Monitoring	Detection Monitoring	NA	-
Multiunit 1	Assessment Monitoring	Assessment Monitoring	2/12/2018	Progressing Activities Supporting Remedy Selection
Upper Retention Sump (URS)	Assessment Monitoring	Assessment Monitoring	2/12/2018	Progressing Activities Supporting Remedy Selection
Groundwater Monitoring Statistical Analysis Summary				
CCR Unit	Appendix III Constituent(s) with SSIs over Background	Monitoring Wells where SSIs over Background have been Observed‡	Appendix IV Constituent(s) Present at SSL(s) above GWPSs	Monitoring Wells where SSLs above GWPSs have been Observed‡
Combined Waste Treatment Pond (CWTP)	B*, pH*	MW-63*, MW-65*	None	None
Dry Fly Ash Disposal Area (DFADA)	None	None	None	None
Return Water Pond (RWP)	None	None	None	None
Multiunit 1	B, Ca, Cl, F	MW-7, MW-8, MW-61, MW-75	Co, Mo	MW-61, MW-75
Upper Retention Sump (URS)	B, Ca, Cl, F, pH	MW-66, MW-67, MW-68, MW-69, MW-70	F	MW-66, MW-67, MW-68, MW-69
Corrective Action Summary				
CCR Unit	Dates when the ACM was Initiated and Completed	Date of Public Meeting Discussing the ACM	Date when Remedy was Selected	Dates when Remedy was Initiated and Completed
Multiunit 1	2/13/2019; 6/14/2019	8/15/2202 and 8/16/2022	N/A	N/A
Upper Retention Sump (URS)	2/13/2019; 6/14/2019	8/15/2202 and 8/16/2022	N/A	N/A

Abbreviations:
ACM – Assessment of Corrective Measures
CCR – Coal Combustion Residuals
GWPS – Groundwater Protection Standard
N/A – Not Applicable
SSI – statistically significant increase
SSL – statistically significant level

‡ Only includes wells where statistical analyses have been performed (i.e., CCR Monitoring Wells)
* Removed as constituent of concern based on a successful Alternative Source Demonstration

1 INTRODUCTION

This Annual Groundwater Monitoring and Corrective Action Report for 2022 (Annual Report) was prepared on behalf of Arizona Public Service Company (APS) by WSP USA Environment & Infrastructure Inc. (WSP) previously doing business as Wood Environment & Infrastructure Solutions, Inc. (Wood) for the Four Corners Power Plant (FCPP or the Site) located in Fruitland, New Mexico. The Annual Report summarizes groundwater monitoring and corrective action activities conducted in 2022 to support compliance with coal combustion residuals (CCR) groundwater monitoring and corrective action requirements detailed in 40 Code of Federal Regulations (CFR) Part 257 (herein referred to as the CCR Rule) (Federal Register, 2020).

The CCR Rule became effective on October 19, 2015 and established standards for the disposal of CCR in landfills and surface impoundments (CCR units). In particular, the CCR Rule set forth groundwater monitoring and corrective action requirements for CCR units. The CCR Rule includes the requirement that an "annual groundwater monitoring and corrective action report" be prepared by January 31 for the preceding calendar year (the reporting period). This Annual Report prepared for the 2022 calendar year is intended to document the status of the groundwater monitoring and corrective action programs for each CCR unit, summarize key actions completed, and forecast key activities for 2023. APS additionally considers this report to meet the semi-annual reporting requirements of 40 CFR §257.97(a) for selecting and designing remedies pursuant to the CCR Rule during the last half of 2022.

The remainder of this section (Section 1.0) provides a summary description of the power generating facility, the CCR units present at the facility, and the facility's environmental setting which form the basis for assessment of underlying groundwater conditions. Section 2.0 presents key groundwater monitoring and corrective action activities performed during the reporting period. Sections 3.0 and 4.0 summarize in further detail the activities performed for the groundwater monitoring and corrective action programs respectively during the reporting period. Key activities identified for the upcoming year are presented in Section 5.0.

1.1 SITE BACKGROUND

1.1.1 FACILITY AND CCR UNIT DESCRIPTION

Facility Description. FCPP is an operating power plant owned by APS and four other utilities. The plant burns low sulfur coal in two electrical generating units (Units 4 and 5) and has a net generating capacity of 1,540 megawatts. FCPP formerly had five generating units and a capacity of 2,040 megawatts; Units 1, 2, and 3 were retired in December 2013 and decommissioned between 2014 and 2016. Coal burned at the plant is generally sourced from the nearby Navajo Mine (Navajo Transitional Energy Company, 2016).

Facility Location. The plant and associated infrastructure are located approximately 20 miles southwest of the city of Farmington in the Colorado Plateau physiographic province of northwestern New Mexico (**Figure 1-1**). The land on which the plant resides is leased from the Navajo Nation and is primarily located in Section 36, Township 29 North, and Range 16 West of the northwest quadrant of the New Mexico Principal Meridian and Base Line.

CCR Unit Description. Plant infrastructure includes three single CCR units in the main plant area (i.e., the Upper Retention Sump [URS], Combined Waste Treatment Pond [CWTP], and Return Water Pond [RWP]) and one single CCR unit (the Dry Fly Ash Disposal Area [DFADA]) and one CCR multiunit (referred to as Multiunit 1) to the west of the plant within the FCPP lease boundary (also known as the disposal area) (**Figure 1-2**). **Table 1-1** summarizes the location, function, operation, size/construction, and history of each unit. The boundaries of CCR units depicted in **Figure 1-2** are based on available historical plans for the units.

1.1.2 ENVIRONMENTAL SETTING

Unless otherwise noted, the following information is abstracted from AECOM Technical Services, Inc. (AECOM, 2017).

Climate. The plant is located in a semi-arid climate on the western flank of the San Juan Basin. The area receives an average of 8.6 inches of precipitation and 12.6 inches of snow per year.

Topography. The main plant area of the FCPP is located at an elevation of approximately 5,340 to 5,360 feet (ft) above mean sea level (amsl). The topography of the FCPP area is characterized by rolling terrain, steep escarpments, and incised drainages/arroyos. In the vicinity of the plant, the ground surface is relatively flat, sloping to the west at approximately 20 ft per mile; however, surface drainage immediately near Morgan Lake flows towards the lake. About one mile west of the plant, the level ground surface drops rapidly to 5,200 ft amsl. Chaco Wash (also known as Chaco River) is located west of this abrupt change in elevation and ephemerally flows north to the San Juan River.

Surface Water Hydrology. FCPP is situated on the southern bank of Morgan Lake, an approximately 1,300-acre man-made lake that has a maximum storage capacity of 39,000 acre-ft of water and supplies cooling water to the plant. Morgan Lake was formed by damming a westerly flowing stream (now known as 'No Name Wash') and is replenished by an underground pipeline (i.e., aqueduct) that routes flow from the San Juan River located approximately 3 miles north of the FCPP. The typical water surface elevation of the lake is approximately 5,330 ft amsl. Morgan Dam discharges in accordance with National Pollutant Discharge Elimination System (NPDES) Permit No. NN0000019 to 'No Name Wash' which flows west of the lake to Chaco Wash.

Site Geology. The San Juan Basin is a structural depression that lies at the eastern edge of the Colorado Plateau (Dames & Moore, 1988). The dominant geographic feature in the vicinity of FCPP is the Hogback Monocline located to the west of Chaco Wash; this monocline is a steep (38 degree) eastward-dipping flank composed of Cretaceous sedimentary rock (Dames & Moore, 1988).

There are two 'uppermost geologic units' that underlie the FCPP site and immediate vicinity. These units are expected to influence groundwater flow and result in variations in naturally occurring constituent concentrations across the Site. The units are as follows:

- **Pictured Cliffs Sandstone:** The Pictured Cliffs Sandstone is the uppermost geologic unit beneath the plant and the CCR units located in this vicinity (i.e., the URS, the CWTP, and the RWP as depicted in **Figure 1-2**). This unit is a fine- to medium-grained marine sandstone. The lower portions of the Pictured Cliffs Sandstone represent a transitional sequence between this formation and the underlying Lewis Shale as indicated by alternating thin beds of very fine-grained sandstone and silty shale. The Pictured Cliffs Sandstone forms a capstone on an exposed cliff face located between the main plant site and the CCR units located to the west (i.e., the Lined Ash Impoundment [LAI], Lined Decant Water Pond [LDWP] and the DFADA).
- **Lewis Shale:** The Lewis Shale is a marine shale that contains evaporite deposits resulting in naturally occurring saline groundwater conditions. The Lewis Shale is the uppermost geologic unit that underlies the LAI, LDWP, and DFADA and spans west of the Pictured Cliffs Sandstone cliff face approximately 1.5 miles westward to the base of the Hogback Monocline. The regional thickness of the Lewis Shale is approximately 500 ft and is underlain by the Cliff House Sandstone. The Lewis Shale consists of a weathered shale subunit overlying a hard, unweathered shale subunit. The thickness of the weathered shale varies between 11 and 47 ft with an average thickness of 30 ft within the vicinity of the Site (Dames & Moore, 1988). The weathered shale is not as thick when overlain by the Pictured Cliffs Sandstone in the vicinity of the plant site. . At the RWP, subsurface investigations identified no weathered Lewis Shale and a dip in the unweathered shale to the northeast, towards Morgan Lake (Wood, 2020).The Lewis Shale subunit contains thin sandstone lenses that vary in thickness from 1 to 7 ft; the sandstone is fine to very fine-grained and cemented by calcium carbonate (Dames & Moore, 1988). The unweathered shale is significantly less permeable than the weathered shale. The unweathered shale is very fine-grained to silty and contains periodic siltstone and sandstone lenses (Dames & Moore, 1988). The surface of the unweathered shale slopes towards the Chaco Wash in the disposal area at approximately the same slope as land surface (Dames & Moore, 1988) but displays some irregularity resulting in varying levels of saturated thickness in the weathered shale. The Lewis Shale is

variably saturated and hydraulically interconnected with alluvial deposits of Chaco Wash. The low-permeability unweathered shale underlying the Pictured Cliffs Sandstone results in a perched saturated zone in this region

Applicable Hydrostratigraphy. Three general hydrostratigraphic units are conceptualized beneath the FCPP and associated CCR units. These units form the basis for the Conceptual Site Model (CSM) developed by AECOM (AECOM, 2017) for the purpose of designing the Site CCR groundwater monitoring system and establishing the working basis for statistically evaluating groundwater conditions underlying the Site.

The first hydrostratigraphic unit (Pictured Cliffs Sandstone) is dominant under the plant area, which is located in an elevated area south of Morgan Lake (**Figure 1-2**). Three CCR units (i.e., the URS, the CWTP, and the RWP) reside within this area. The Pictured Cliffs Sandstone is saturated below the URS and the CWTP and thus serves as the uppermost water bearing unit for these surface impoundments. While the Pictured Cliffs Sandstone is unsaturated beneath the RWP, this hydrostratigraphic unit is the uppermost water bearing unit should a leak from the RWP occur (the underlying Unweathered Lewis Shale prevents appreciable vertical migration of groundwater). The Pictured Cliffs Sandstone extends from ground surface (between approximately 5,340 to 5,360 ft amsl) to approximately 5,300 ft amsl in the plant area. Groundwater underlying the URS and CWTP is strongly influenced by Morgan Lake (at a surface elevation of approximately 5,330 ft amsl) and generally flows northward towards the lake. However, construction and operations of the plant have resulted in disturbed ground conditions and associated impacts are not well understood.

The second hydrostratigraphic unit (Weathered Lewis Shale/Alluvium) underlies the Pictured Cliffs Sandstone in the plant area and the Multiunit 1/DFADA CCR units in the disposal area, approximately 1 mile west of the plant (**Figure 1-2**). The Weathered Lewis Shale and the hydraulically connected alluvial deposits along Chaco Wash are designated as the uppermost water bearing unit in the disposal area. Although the Lewis Shale is geologically continuous in this area, it is unsaturated in the vicinity of the DFADA. The water table in the Weathered Lewis Shale can exhibit local seasonal fluctuations that are attributed to interactions between rates of groundwater recharge and discharge (Dames & Moore, 1988) from/to Morgan Lake (based on proximity), historical unlined ponds, and Chaco Wash. Groundwater flow underlying the disposal area CCR units generally follows the surface topography and descends to the west-southwest in the disposal area, mainly in the weathered shale and in local alluvial channels that drain toward the Chaco Wash (APS, 2013).

The third hydrostratigraphic unit (Unweathered Lewis Shale) consists of the Unweathered Lewis Shale and is a regionally extensive confining unit that forms the base of the uppermost aquifers in the plant and disposal areas. The Unweathered Lewis Shale is not capable of yielding usable quantities of water and thus is not an aquifer.

1.2 CCR GROUNDWATER MONITORING SYSTEM

Multiple monitoring wells are in place at FCPP to monitor groundwater conditions beneath the five Site CCR units and support ongoing assessment of impacts from potential leakage. **Table 1-2** identifies each well with associated CCR unit information, the date of well installation, and summary well construction details. **Figure 1-2** presents a map of the well locations.

Installation of the FCPP CCR groundwater monitoring system is summarized in the *CCR Monitoring Well Network Report and Certification* (AECOM, 2017), the *Groundwater Monitoring Network Certification Report for the Return Water Pond* (Wood, 2020a), and *Groundwater Sampling and Analysis* Program (**Appendix A**).The first two of these reports certify the CCR groundwater monitoring system as compliant with 40 CFR §257.91(a) through I. Per the CCR Rule, site monitoring systems are required to evaluate groundwater quality that is representative of background (i.e., groundwater that has not been affected by leakage from a CCR unit) and groundwater passing the downgradient boundary of each CCR unit, in the uppermost water bearing hydrostratigraphic unit underlying the CCR unit.

1.2.1 MONITORING SYSTEM DESCRIPTION

1.2.1.1 Background Groundwater Monitoring Wells.

Background water quality at the site can be established by a single monitoring well or a group of monitoring wells. If a group of monitoring wells is used, these wells should be screened within the same lithologic unit, exhibit similar groundwater chemistry, illustrate similar statistical merits, and be supported by the CSM. The grouping and adequacy of background wells identified for FCPP to assess background water quality are assumed adequate until proven otherwise.

Per the *CCR Monitoring Well Network Report and Certification* and the *Groundwater Monitoring Network Certification Report for the Return Water Pond*, the following monitoring wells are designated as "background monitoring wells" for the respective geologic and hydrostratigraphic conditions underlying the FCPP (AECOM, 2017) (Wood, 2020a):

Background Wells for the Pictured Cliffs Sandstone. Three wells (MW-71, MW-72, and MW-73) are used to determine background groundwater quality for the URS, the CWTP, and the RWP in the Pictured Cliffs Sandstone (**Table 1-2** and **Figure 1-2**). Although these wells are not upgradient of the RWP, the water quality indicated by MW-71, MW-72, and MW-73 is considered representative of unimpacted groundwater in the Pictured Cliffs Sandstone. Exploratory borings advanced during the design of the RWP CCR Monitoring System indicated that the Pictured Cliffs Sandstone upgradient of the RWP is unsaturated.

Background Wells for the Weathered Lewis Shale/Alluvium. Water in the Weathered Lewis Shale/Alluvium is perched and sourced by localized surface water infiltration. This hydrogeological regime as well as the fractured nature of weathered shale contributes to difficulties in reliably locating saturated sediments in the subsurface. On this basis, seven wells upgradient of Multiunit 1 and the DFADA, including MW-12R1, MW-49A, MW-51, MW-50A, MW-43, MW-55R, and MW-74, are designated to assess background groundwater quality for the Weathered Lewis Shale/Alluvium. Many of these wells are routinely either dry or have a limited saturated thickness which precludes sampling; the wells are included in the program in case conditions change in the future (**Table 1-2** and **Figure 1-2**).

Due to the natural heterogeneity of the geologic and hydrostratigraphic conditions underlying the FCPP, background constituent concentrations are expected to be spatially heterogeneous across the Site. The Site is also expected to exhibit temporal heterogeneity due to local climatic regimes, potential leakage from Morgan Lake, and potential operational activity at the Site. The adequacy of designated background monitoring wells will be assessed on an ongoing basis using groundwater elevation data, boron data, a working understanding of the spatial heterogeneity of geochemistry underlying the FCPP, and the statistical merits of the constituents of concern. Historical groundwater chemistry data may be consulted during this evaluation, but data preceding December 2011 will not be considered due to noted "matrix interference issues associated with saline waters" in samples analyzed prior to this date (APS, 2013).

1.2.1.2 Downgradient CCR Monitoring Well Networks.

A total of 27 CCR compliance wells are in place at the Site to monitor groundwater conditions downgradient of each CCR unit (**Table 1-2** and **Figure 1-2**). Downgradient boundary wells assess for leakage from each CCR unit and the remaining downgradient wells evaluate the nature and extent of groundwater conditions associated with identified releases from CCR units. Sixteen of these monitoring wells are installed in the Pictured Cliffs Sandstone. The remaining eleven other wells are completed in the Weathered Lewis Shale/Alluvium. The grouping of monitoring wells, spatial density, and coverage of the monitoring well network are assumed representative and adequate until proven otherwise. These wells are identified by respective CCR unit, as described below:

URS Downgradient Wells (Pictured Cliffs Sandstone). The groundwater flow direction underlying the URS was radially outward from the CCR unit before the URS was demolished and replaced with a tank. On this basis, five downgradient boundary wells, MW-66, MW-67, MW-68, MW-69, MW-70 and four downgradient wells, MW-83, MW-84, MW-85 and MW-86 were installed around the perimeter and downgradient of the URS to evaluate leakage and the extent of groundwater impacts, respectively. The URS downgradient wells are screened within the Pictured Cliffs Sandstone hydrostratigraphic unit.

CWTP Downgradient Wells (Pictured Cliffs Sandstone). Similar to the URS, the groundwater flow direction underlying the CWTP was inferred to be radially outward from the CCR unit at the time the monitoring system was designed. Four downgradient boundary wells, MW-62, MW-63, MW-64, and MW-65, were installed around the perimeter of the CWTP. The CCR Monitoring Well Network Report and Certification identifies these wells as screened within the Pictured Cliffs Sandstone hydrostratigraphic unit. However, additional review of boring logs conducted as part of an Alternative Source Demonstration (ASD) in 2019 for the CWTP (Wood, 2020b) indicates that MW-62 and MW-63 are screened in non-native embankment fill materials including Weathered Lewis Shale and bottom ash which appears to influence the water quality of samples collected from these wells.

RWP Downgradient Wells (Pictured Cliffs Sandstone). Three downgradient boundary monitoring wells are installed within the Pictured Cliffs Sandstone hydrostratigraphic unit on the northeastern edge of the RWP – MW-88, MW-89, and MW-90. The Pictured Cliffs Sandstone is unsaturated beneath the RWP, and the wells are installed directly above the aquitard created by the underlying Unweathered Lewis Shale, which dips towards the northeast beneath the RWP. This groundwater monitoring system is designed to detect releases from the RWP, as a release would likely migrate vertically downward through the relatively permeable Pictured Cliffs Sandstone to the underlying Unweathered Lewis Shale, then migrate laterally along the surface of the aquitard. The next underlying aquifer (in the Cliff House Sandstone) is separated from the CCR unit by several hundred ft of the Unweathered Lewis Shale.

Multiunit 1 Downgradient Wells (Weathered Lewis Shale/Alluvium). Six downgradient boundary monitoring wells are in place along the toe of the western to southwestern edge of Multiunit–1 – MW-07, MW-08, MW-40R, MW-61, MW-75, and MW-76. Two wells, MW-40R and MW-76, have previously been routinely either dry or have a limited saturated thickness. Both wells contained insufficient amounts of water to support groundwater sample collection during both the May and November 2022 semi-annual sampling events. In 2018, to characterize the nature and extent of impacts from the unit, downgradient monitoring well MW-87 was installed at the western lease boundary near the Chaco Wash. Monitoring data collected during both events are discussed further in Sections 3.2. The screened interval for each Multiunit 1 downgradient well resides within the Weathered Lewis Shale/Alluvium hydrostratigraphic unit.

DFADA Downgradient Wells (Weathered Lewis Shale/Alluvium). Four downgradient boundary monitoring wells are identified downgradient of the DFADA: MW-13, MW-44, MW-10, and MW-48. Each well, except MW-48, is screened within the Weathered Lewis Shale/Alluvium hydrostratigraphic unit. The screened interval for MW-48 resides within the Unweathered Lewis Shale hydrostratigraphic unit. The groundwater monitoring system was designed to detect releases since the next underlying aquifer (in the Cliff House Sandstone) is separated from the CCR unit by several hundred ft of Lewis Shale. The downgradient DFADA wells are generally known to be dry; however groundwater elevation measurements were able to be obtained from MW-44 and MW-10 in May and November 2022, respectively. Neither well contained sufficient water to support sampling. Monitoring data collected during both events are discussed further in Section 3.2.

Supplementary Site Monitoring Wells. There are many groundwater monitoring wells at the Site that are not part of the CCR groundwater monitoring systems but may provide useful information to the program. **Table 1-2** and **Figure 1-2** identify these wells.

1.2.2 IMPLEMENTED CHANGES TO MONITORING SYSTEM

Most of the wells that comprise the Site CCR groundwater monitoring systems were installed prior to or during 2017 (**Table 1-2**). No changes to the monitoring systems were implemented during the 2022 reporting period.

2 SUMMARY OF KEY ACTIONS COMPLETED

A summary of key actions conducted at the Site during 2022 to address CCR Rule requirements is as follows:

- *Documentation of Groundwater Monitoring Activities Conducted in 2021* – 40 CFR §257.90(e) requires that an Annual Groundwater Monitoring and Corrective Action Report for applicable sites be prepared for existing CCR units annually on January 31 of the following year. During the reporting period the Annual Groundwater Monitoring and Corrective Action Report for 2021 (Wood, 2022b) was prepared, placed in the facility's operating record, and posted to the APS CCR information webpage in accordance with 40 CFR §257.105(h)(1) and 40 CFR §257.106(h)(1).
- *Continuation of the Detection Monitoring Program at the CWTP, DFADA, and RWP* – 40 CFR §257.94(b) requires the continuation of detection monitoring at a semi-annual frequency for Appendix III constituents at CCR units where statistical analysis of Appendix III constituent data do not indicate a statistically significant increase (SSI) over background. Section 3.2 presents the results of detection monitoring data collected on a semi-annual basis from the CWTP, DFADA, and RWP in 2022.
- *Completion of Statistical Analyses for Collected Appendix III Constituents at the CWTP – 40 CFR §257.93(h)* requires routine statistical analysis of Appendix III constituent data from CCR units in the detection monitoring program. During the reporting period, two statistical analyses were performed using updated Appendix III constituent data collected from CWTP monitoring wells. The statistical analyses are summarized in Section 3.3.
- *Sampling and Analysis Plan Update* – An update to the existing Sampling and Analysis Plan (SAP) was completed for the Site in August 2022. The SAP was updated to address changes made since the drafting of the original SAP was prepared for the Site (AECOM, 2015, updated by APS, 2018). The updated SAP is included in **Appendix A**.
- *Statistical Data Analysis Work Plan Update* – An update to the Statistical Data Analysis Work Plan was updated for the Site in January 2023. The SDAWP was updated to supplement previous statistical analysis documentation prepared for the Site and present a comprehensive approach for performing statistical analyses of groundwater data from the detection and assessment monitoring programs to corrective action, closure, and post-closure. The SDAWP is included in **Appendix B**.
- *Preparation of a Semi-annual Progress Report on Remedy Selection for Multiunit 1 and the URS* – 40 CFR §257.97(a) requires the preparation of semi-annual reports which document the progress of remedy selection for CCR units that have impacted groundwater. The seventh semi-annual report was prepared to fulfill this requirement in July 2022 of the reporting period (Section 4.5). Activities supporting remedy selection conducted during the second semi-annual reporting period of 2022 are summarized in Section 4.3.
- *Laboratory Split Sampling Evaluation* – A technical memorandum (tech memo) was prepared in January 2023 which reported the technical evaluation of laboratory split sampling data collected from monitoring wells located at the Site. The split sampling was performed to evaluate periodic deficiencies observed with the data produced by Eurofins Environment Testing America (Eurofins), who has historically been contracted for all semi-annual CCR groundwater monitoring sample analysis at the Site. The Split Sampling Tech Memo is included in **Appendix C**.
- *Statistical Analyses of Lithium and Selenium at Multiunit 1 – Exploratory Data Analysis (EDA)* – An EDA was performed for selenium at Multiunit 1 by Geoscience Consulting Strategies LLC (Geoscience Consulting). The EDA is further discussed in Section 3.3.2 and the EDA tech memo is included as **Appendix D**.
- *Public Meetings* – Per 40 CFR §257.96(e), a public meeting must be held with interested and affected parties to present the results of the Assessment of Corrective Measures (ACM) at least 30 days prior to selecting remedies for each CCR unit. To comply with this requirement for the URS and Multiunit 1, APS conducted a virtual meeting on August 15, 2022, and two in-person public meetings held on August 15 and 16, 2022. The public meetings are discussed further in Section 4.3.2.

- *Interim Response Measures at the URS.* A report was prepared to summarize the final construction of this project to equip two extraction wells (CM-01 and CM-02) with pumps and piping to facilitate extraction of water from this area and discharge it into a plant sump for reuse in plant operations. This work was completed as an interim response measure and study to address groundwater impacts resulting from the URS and evaluate the effectiveness of extraction wells as a corrective measure. The *URS Well Pump Installation Completion Report* is included in **Appendix E**. Startup of extraction from CM-01 and CM-02 began in February 2022. The groundwater model previously completed at the URS (Wood, 2019a) was reviewed and an update of the model conditions to reflect current interim response measures at the URS has begun.
- *Interim Response Measures at the Multiunit.* APS operated the Northern and Southern Intercept Trench throughout the reporting period to intercept and collect seepage from Multiunit 1 and closed surface impoundments. The extracted groundwater is reused in plant operations.
- *Investigation of Groundwater Quality Downgradient of the Southern Intercept Trench.* A technical memorandum was prepared to evaluate and document quarterly groundwater sampling and to evaluate conditions that might cause intermittent COC exceedances at wells downgradient of the Multiunit 1 and SIT. This technical memorandum is included in **Appendix F**.
- *Initiation of the CWTP Dredging Program.* APS began removing CCR from the CWTP through mechanical excavation and hydraulic dredging.

3 GROUNDWATER MONITORING PROGRAM

The groundwater monitoring and corrective action process defined in the CCR Rule includes a phased approach to groundwater monitoring, leading (if applicable) to the establishment of groundwater protection standards (GWPSs) for each CCR unit. Exceedances of the GWPSs that are determined to be statistically significant can trigger requirements for additional groundwater characterization and corrective measures assessment followed by implementation.

The first phase of groundwater monitoring is the detection monitoring phase. This phase focuses on a set of constituents (listed in Appendix III of the CCR Rule) that are the more mobile constituents associated with CCR and therefore represent indicators of possible impacts from CCR in groundwater. If statistically significant increases (SSIs) over Appendix III constituent background threshold values (BTVs) are detected in the downgradient waste boundary wells and cannot be demonstrated to be associated with a source other than the CCR unit, then groundwater monitoring moves into the second phase, assessment monitoring. **Table 3-1** summarizes BTVs for Site CCR units.

The second phase of groundwater monitoring focuses on the constituents listed in Appendix IV of the CCR Rule. The Appendix IV constituents are generally less mobile and occur at lower concentrations in groundwater than the Appendix III constituents. Concentrations of Appendix IV constituents in downgradient wells are compared to GWPSs. The GWPSs, established for Appendix IV constituents only, are the higher of either the federal Safe Drinking Water Act Maximum Contaminant Level, alternative risk-based GWPSs established in the CCR Rule, or the background concentration for each constituent. **Table 3-1** summarizes GWPSs for Site CCR units.

If exceedances of the GWPSs are determined to be occurring in the downgradient boundary wells at statistically significant levels (SSLs) and no alternative sources for the exceedances can be demonstrated, then both additional groundwater characterization and assessment of corrective actions are initiated. Following assessment of corrective measures, a remedy (or set of remedial activities) is selected and implemented as the groundwater corrective action program for the CCR unit. According to the CCR Rule, groundwater corrective action will continue until compliance with the GWPSs has been attained in all impacted wells and sustained for a period of three consecutive years

3.1 PROGRAM STATUS

Based on available Appendix III concentrations and statistical analyses completed as of the end of the 2022 reporting period, the CWTP, DFADA and RWP are currently the only units in the detection groundwater monitoring program. During the 2022 reporting period all DFADA and RWP downgradient compliance wells continued to be dry and therefore precluded groundwater sampling and groundwater quality evaluation. The URS and Multiunit 1 (the LAI/LDWP) are in corrective action and continue to be monitored as part of the assessment groundwater monitoring program.

Summaries of groundwater monitoring program activities performed during the reporting period are presented in the following sections.

3.1.1 PROBLEMS ENCOUNTERED AND RESOLUTIONS TO PROBLEMS

The following problems and associated resolutions were encountered during the reporting period:

— A technical evaluation of groundwater monitoring split laboratory data collected at the Site as part of the semi-annual monitoring event was conducted in May 2022. Samples collected at the Site were submitted to Eurofins Environment Testing America (Eurofins) and ACZ laboratories, Inc. (ACZ) and were evaluated for

accuracy, precision, and usability. Based on this evaluation's findings; it is recommended for the CCR groundwater monitoring samples to continue to be submitted to Eurofins for analysis. This will reduce the occurrence of any variations as the CCR groundwater monitoring program continues and maintain overall program consistency. The technical evaluation is included in **Appendix C**.

- Sump 14 of the Northern Intercept Trench was reported as being out of service as of September 2022 and groundwater samples were unable to be collected at this location during the October 2022 sampling event. Sampling of this process sump is not required by the CCR Rule; the information is collected to support assessment of interim remedial measures. Sampling will resume once the sump is operational.
- A sample was unable to be collected from MW-82S during the October 2022 sampling event. During the sampling event the pump did not appear to run when turned on. Sampling of this process extraction well is not required by the CCR Rule; the information is collected to support assessment of interim remedial measures. Sampling will resume once the extraction system is operational.

3.1.2 GROUNDWATER MONITORING PROGRAM TRANSITIONS

No CCR unit monitoring program transitions occurred during the 2022 reporting period.

3.1.3 ALTERNATIVE SOURCE DEMONSTRATIONS

No Alternative Source Demonstrations (ASDs) were conducted during the 2022 reporting period.

3.2 MONITORING DATA COLLECTED

CCR groundwater monitoring was conducted at FCPP during the 2022 reporting period in accordance with the updated Site SAP presented in **Appendix A**. The SAP documents the methods and procedures used to conduct groundwater sampling, analyze collected samples for CCR constituents, and assess associated analytical data for quality assurance purposes. The previous SAP prepared for the Site by AECOM Technical Services, LLC (2017) was updated during the 2022 reporting period to reflect changes in Site conditions and activities.

The following sections summarize groundwater monitoring activities conducted in 2022. **Table 3-2** identifies when monitoring occurred, and which units were monitored. Unless otherwise noted, detection monitoring included evaluation of samples for Appendix III constituents on a semi-annual basis (40 CFR §257.94[b]) and at a minimum, assessment monitoring included evaluation of samples for all Appendix IV constituents on an annual basis (40 CFR §257.95[b]) and detected Appendix IV constituents as well as all Appendix III constituents on a semi-annual basis (40 CFR §257.95[d][1]). To simplify groundwater monitoring logistics, CCR compliance wells in assessment monitoring were evaluated for all Appendix IV constituents on a semi-annual basis in 2022.

The DFADA wells are completed in either the Weathered Lewis Shale/Alluvium or Unweathered Lewis Shale while the RWP wells are completed in the Pictured Cliffs Sandstone. These hydrostratigraphic units are known to be dry downgradient of the DFADA and the RWP. Thus, the DFADA and RWP groundwater monitoring systems are designed to detect releases by the presence of water (insignificant amounts of condensate are known to accumulate in wells). During the April and November monitoring events, these wells were found to be dry or have less than 4 inches of water present, which is consistent with previous readings and indicates that releases from the DFADA and RWP did not occur in 2022.

Supplementary water samples were also collected as part of pre-design and corrective measures evaluations during the reporting period which include:

- Seepage intercept system samples from sumps.
- Groundwater samples collected downgradient of the seepage intercept system.
- Surface water samples from the CWTP, Morgan Lake, and the cooling water canal adjacent to the CWTP.

Notably, MW-11, a supplementary well located more than 2,000 ft downgradient of the DFADA (completed in the Lewis Shale), was sampled during both the May and November 2022 sampling events. This well was added to the sampling program and monitored for the first time in November 2021. The results of MW-11 sampling are discussed further in Section 4.2. As with the CCR groundwater samples, the additional samples were collected and analyzed using industry-standard procedures and in accordance with the SAP.

3.2.1 WATER LEVEL MONITORING

Appendix G presents hydrographs depicting groundwater elevations measured at downgradient monitoring wells over time. Groundwater elevations in the Pictured Cliffs Sandstone (i.e., plant area) and the Weathered Lewis Shale/Alluvium (i.e., disposal area) are graphed independently based on assessment of the data during initial CSM development; review of the data suggests that the two groundwater systems are likely not in direct communication. Unless otherwise noted below or within the hydrographs of **Appendix G**, hydrographs are based on water level measurements collected semi-annually during the groundwater monitoring events; therefore, the significant trends discussed below are recognized to be limited.

- **Downgradient and downgradient boundary wells for Multiunit 1 (MW-07, MW-08, MW-40R, MW-61, MW-75, MW-76 and MW-87):** As presented in **Appendix G,** water level data collected at MW-07, MW-61, MW-75, and MW-87 continued to slowly decline during the reporting period. Water levels measured at MW-08 and nearby well MW-76 have been more variable over the last three years. An increase in water levels was observed at MW-08 throughout the 2020 calendar year, however, water levels have declined at the well since November 2020. The water level at MW-76 increased slightly between November 2021 and May 2022, but then declined during the semi-annual monitoring for 2022. MW-40R, located more than 1,600 ft north and cross-gradient of MW-08 and MW-76 on the northwestern corner of the LDWP, has been relatively stable. Historically, MW-76 and MW-40R have had low water levels and/or recovered poorly during sampling and the monitoring wells could not be adequately purged such that a groundwater sample could be collected per the Site SAP. Both wells contained sufficient water to support groundwater sample collection in April 2021, however, water levels have not recovered enough to support groundwater sample collection during either 2022 sampling event. Sample results from all wells sampled during 2022 are discussed further in Sections 3.2.
- **Downgradient and downgradient boundary wells for URS (MW-66, MW-67, MW-68, MW-69, MW-70, MW-83, MW-84, MW-85, and MW-86):** The steadily decreasing water levels at the wells surrounding the URS suggest that decommissioning of the URS (which occurred from June to December 2018) has reduced groundwater elevations in this area. Additionally, pumping at interim response measure extraction wells CM-01 and CM-02, which began in February 2022, has reduced the groundwater table in the vicinity of the former URS. Notably, between November 2021 and 2022, the water levels at MW-66, MW-67, and MW-68 declined by 1.5 ft or more and MW-86 declined by approximately 1.3 ft. This declining trend was additionally observed by the pressure transducers installed in wells located around the footprint of former URS. This is depicted on the hydrographs, included as **Appendix H**. The hydrographs display groundwater elevation measurements collected at select URS monitoring wells (CM-03, CM-04, MW-66, MW-67, MW-68, MW-84, and MW-85) on an hourly basis since February 10, 2022. A declining trend at all wells was observed from February to October 2022 at which point, groundwater elevations stabilize and indicate a slight increase at the end of 2022.
- **Downgradient boundary wells for CWTP (MW-62, MW-63, MW-64, and MW-65):** Between the November 2021 and May 2022 sampling events, water levels declined in all downgradient CWTP monitoring wells; discharges to the unit ceased in November 2020 and water levels in the surface impoundment have been maintained at lower elevations since that time to prevent discharges from the unit to the adjacent canal. Water levels continued to decline at MW-62 and MW-63 between May and November 2022; however, water levels indicate an increasing trend at MW-64 and MW-65.
- **Background wells:** Seasonal variations in groundwater elevations continue to be apparent at MW-74 (background well for Multiunit 1 and the DFADA and located downstream of Morgan Lake Dam), with the highest elevations occurring in early spring at around 5201.5 ft amsl and lowest elevations occurring in late summer to late fall at around 5199 ft amsl. Notably, the 2020 spring peak in water level elevation was relatively subdued at just below 5200.5 ft amsl. Water level fluctuations at MW-74 (just south of 'No Name Wash') may be influenced by plant operations since the water level in the lake fluctuates based on plant

requirements and discharges from Morgan Lake to 'No Name Wash'. Typical seasonal patterns appear to have continued during the 2022 reporting period. A decreasing trend was observed in 2022 at background wells: MW-71, MW-72, and MW-73. This decreasing trend is consistent with trends observed at the downgradient wells located at the URS and CWTP. The greatest decrease in groundwater elevation was observed at MW-73, which dropped from 5328.67 to 5327.47 ft amsl from May to November 2022, respectively (**Appendix G**).

Figures 3-1 and **3-2** present potentiometric surface maps that are representative of groundwater elevations prior to groundwater sampling in May and November 2022, respectively. The estimated direction and gradient of groundwater flow derived from collected groundwater elevation data are noted in the figures. Notably, the decline in groundwater elevations at the URS and CWTP wells appears to have significantly influenced groundwater flow directions in the vicinity of these units. Localized impacts from operation of the CM-01 and CM-02 extraction wells downgradient of the URS may be contributing to lower water levels around the former URS.

3.2.2 GROUNDWATER FLOW ESTIMATION

The CCR Rule requires that groundwater flow rates beneath CCR units be estimated during each monitoring event. To meet this requirement, water levels measured at the time of sampling events were used to calculate the direction and magnitude of the hydraulic gradient in the vicinity of each unit using a spreadsheet tool available on the United States Environmental Protection Agency (USEPA) website (USEPA, 2014). Darcy's Equation for flow through porous media was then used with Site data (where available) and/or literature-based hydraulic conductivity and effective porosity values for hydrogeologic units to estimate groundwater flow rates. Groundwater flow rates and gradient magnitudes were calculated separately for the Pictured Cliffs Sandstone underlying the URS and CWTP, respectively, in 2022, to evaluate the influence pumping at the URS extraction well system had at the units. **Table 3-3** summarizes the results of these calculations.

For the Pictured Cliffs Sandstone underlying the former URS, the magnitude of the hydraulic gradient was 0.0007 to 0.001 ft per ft (ft/ft), for measurements taken in May and November 2022, respectively. The direction of groundwater flow (collectively for all wells) was north-northwest towards Morgan Lake for both sampling events. The directions calculated were 340 degrees from north for both measurements collected during 2022. Corresponding groundwater flow rates were 0.02 ft per day (ft/d) for measurements collected during both events in 2022. The data collected during the reporting period suggest that the water table in the plant area is relatively flat (as compared to other areas) and in hydraulic communication with Morgan Lake. The greatest impact URS extraction well pump operation appears to have on groundwater flow at the URS is on the groundwater flow direction, which is directed in a more northerly direction than past evaluations with some localized flow towards the extraction well system (Wood, 2022b).

For the Pictured Cliffs Sandstone underlying the and CWTP, the magnitude of the hydraulic gradient was 0.0007 to 0.0014 ft/ft for measurements taken in May and November 2022, respectively. The direction of groundwater flow at the CWTP was significantly changed during the reporting period, as flow was redirected from the northwest, towards Morgan Lake (in 2021, [Wood, 2022b]) to the southwest. The directions calculated were 192 and 254 degrees for May and November measurements, respectively. Corresponding groundwater flow rates were 0.02 and 0.03 ft/d for measurements collected in May and November, respectively.

For the Lewis Shale underlying Multiunit 1, both the hydraulic gradient and flow direction were relatively stable. The magnitude of the hydraulic gradient was 0.03 ft/ft during each monitoring round and the direction of groundwater flow was southwest towards Chaco Wash (256.4 and 255.7 degrees from north for May and November 2022 measurements, respectively). The corresponding groundwater flow rate for May and November 2022 was 0.0002 ft/d, which is comparable to historical flow rates.

3.2.3 SAMPLE COLLECTION

Groundwater samples were collected, labeled, preserved, and shipped in accordance with the SAP (**Appendix A**). In some instances, the wells were observed to be dry upon monitoring or did not have enough water and could not be sampled (**Table 3-2**). In accordance with 40 CFR §257.93(i), collected groundwater samples were not field

filtered prior to analysis. Pursuant to the SAP, quality control samples (i.e., field duplicates, field blanks and extra sample volume for matrix spike samples) were collected during each groundwater monitoring event. These samples are noted on associated chain-of-custody documentation

3.2.4 SAMPLE ANALYSIS AND DATA VALIDATION

Groundwater samples were submitted to Eurofins TestAmerica Laboratories, Inc. (Eurofins) and Radiation Safety Engineering, Inc. (Radiation Safety) located in Phoenix, Arizona for analysis. Eurofins evaluated samples for all constituents excluding radium. Radiation Safety performed the radium analyses. Both Eurofins and Radiation Safety are Arizona Department of Health Services-licensed laboratories (AZ0728 and AZ0462, respectively). **Appendix I** presents the associated Laboratory Reports of Analysis organized by CCR unit.

Table 3-2 identifies the analytes evaluated during each monitoring event. Analytes varied based on the monitoring program (i.e., detection vs. assessment monitoring) and the need for supplementary information useful in evaluating groundwater quality across the Site. The SAP identifies Appendix III and Appendix IV constituents with associated analytical methods.

Following receipt of final laboratory reports of analysis, the reports and associated sample data collected during detection and assessment monitoring were evaluated for quality assurance purposes. The scope of the review was an USEPA Stage 2A validation (USEPA, 2009). **Appendix J** presents the *2022 Data Validation Report* which documents these reviews. The amount of qualified data was reduced by approximately half when compared to 2021 data validation results. All data qualifiers and reason codes are included in the 2022 Data Validation Report (**Appendix J**).

3.2.5 SAMPLE RESULTS

Appendix K presents the groundwater sampling results for 2022 along with historical groundwater quality data for the Site. The groundwater quality data are discussed further in Section 4.2. The sampling coverage and frequency of the groundwater monitoring system is assumed representative and adequate of spatial and temporal heterogeneity until proven otherwise.

3.3 STATISTICAL ANALYSIS OF MONITORING DATA

Statistical analysis of Appendix III constituent data was conducted during the reporting period to evaluate whether collected monitoring data indicate Site CCR units have adversely impacted underlying groundwater. These analyses were conducted pursuant to the Statistical Data Analysis Work Plan (SDAWP) developed for the Site which was updated during the 2022 reporting period and included in **Appendix B**. The SDAWP was updated to supplement previous statistical analysis documentation prepared for the Site and present a comprehensive approach for performing statistical analyses of groundwater data from the detection and assessment monitoring programs to corrective action, closure, and post-closure.

3.3.1 EVALUATION OF APPENDIX III CONSTITUENT DATA

Three CCR units remained in detection monitoring as of the end of 2022 which included: the CWTP, the DFADA, and the RWP. There were no groundwater samples collected from the DFADA or the RWP CCR compliance wells during the reporting period due to insufficient groundwater availability in the respective monitoring wells, and thus no statistical analyses were performed using data collected from these units.

A statistical analysis of detection monitoring data collected at the CWTP through February 2022 was conducted in April 2022 and is presented in **Appendix L**. The analysis includes an interwell CWTP BTV update and a preliminary MW-65 boron intrawell calculation to address recommendations set forth in the ASD completed January 2022 (Wood, 2022b). The analysis also incorporates the updated BTVs, which are presented in **Table 3-1**.

The statistical analysis declared an initial exceedance for boron at MW-62 and MW-65 in November 2021. The exceedance at MW-62 triggered a 1 of 3 resampling strategy and the exceedance at MW-65 triggered a 1 of 2 resampling strategy and a resampling event was implemented at both wells in February 2022. The resampling detection results displayed boron to be below the associated BTVs for each well, and therefore the initial exceedances were determined statistically insignificant.

A statistical analysis of detection monitoring data collected at the CWTP through August 2022 was conducted in October 2022 and is presented in **Appendix M**. The statistical evaluation declared an initial exceedance in May 2022 of boron and pH at MW-65 and MW-63, respectively. The exceedances triggered a 1 of 2 resampling strategy at each well location and a resampling event was implemented in August 2022. The resampling detection results displayed boron and pH to be below the associated BTVs for each well and therefore the initial exceedances were determined statistically insignificant.

3.3.2 EVALUATION OF APPENDIX IV CONSTITUENT DATA

Based on observations of elevated lithium and selenium concentrations downgradient of Multiunit 1 documented in the 2021 GMCAR, an exploratory data analysis (EDA) was performed for these Appendix IV constituents at the Multiunit 1 by Geoscience Consulting Strategies LLC. The EDA served as a statistical evaluation to assess if lithium and selenium needed to be added as constituents of concern (COCs) to the Multiunit 1 corrective action program pursuant to 40 CFR 257.95(g). An analysis of these potential COCs was conducted in 2018 when cobalt and molybdenum were identified but this supplementary analysis incorporated the additional data collected as part of routine assessment monitoring through November 2021. The results of the statistical evaluation indicated that lithium and selenium were not present at SSLs in groundwater collected from Multiunit 1 downgradient boundary wells and thus the unit is not the source of elevated concentrations of these constituents in groundwater. The analysis is documented in a technical memorandum dated August 16, 2022 and included as **Appendix D.** .

4 CORRECTIVE ACTION PROGRAM

4.1 PROGRAM STATUS

Based on the declaration that one or more Appendix IV constituents are present at SSLs above GWPSs downgradient of Multiunit 1 and the URS, these units are currently in the corrective action program. Notification of the exceedances occurred on November 14, 2018 and were documented in the 2018 Annual Report (Wood, 2019b).

A summary of corrective action program activities conducted during the reporting period is presented in the following sections.

4.2 CHARACTERIZATION OF POTENTIAL RELEASES FROM CCR UNITS

To characterize releases from CCR units, 40 CFR §257.95(g)(1) requires: (i) the installation of wells to define the extent of contaminant plumes, (ii) collection of data on the nature and estimated quantity of material released, (iii) installation of at least one well at the facility boundary in the direction of contaminant migration, and (iv) sampling of these wells to characterize the nature and extent of the release.

Initial efforts to address the requirements of 40 CFR §257.95(g)(1) were documented in the *Hydrogeologic Investigation of Multiunit 1 and the Upper Retention Sump* (Wood, 2020c). However, due to the duration required to adequately characterize complex groundwater impacts, work supporting characterization of potential releases from CCR units is ongoing.

During the reporting period, activities conducted to address CCR Rule release characterization requirements downgradient of Multiunit 1 and the URS included:

- The collection of groundwater quality data from an expanded network of existing groundwater wells (Section 3.2);
- Delineation of the nature and extent of the release from Multiunit 1 and the URS in the form of plume maps (**Figures 4-1** through **4-5**).

Findings from these characterization activities are summarized as follows and further discussed in Section 4.3.

Multiunit 1: Molybdenum and cobalt are present at concentrations above their respective GWPSs in groundwater downgradient of Multiunit 1 , including a region upgradient of MW-60 which is a potential past CCR conveyance corridor to former ash ponds and therefore difficult to distinguish whether impacts are associated with the LAI or previous site activities.

Assuming the LAI contributed to impacts upgradient of MW-60, the extent of molybdenum impacts associated with Multiunit 1 appear to be limited generally to the area directly downgradient of the LDWP and downgradient of the LAI along the northern edge of the LDWP (**Figures 4-1** and **4-2**).

The extent of cobalt concentrations that exceed the GWPS generally extend up to the SIT (**Figures 4-3** and **4-4**). During the reporting period, cobalt exceeded the GWPS at the following downgradient wells located upgradient of the SIT: MW-17R, MW-36R, MW-38R, MW-52, MW-60, MW-61, and MW-75. Intermittent exceedances of cobalt have been historically noted at MW-18, DMX-03, MW-56, and MW-87, which are all located downgradient of the SIT; however, semiannual sampling data conducted in 2022 indicate the concentration of cobalt at all wells downgradient of the SIT were less than the GWPS. Cobalt exceeded the GWPS at MW-56 in February 2022 (a supplementary sampling event conducted to evaluate COC exceedances downgradient of the SIT; see Section

4.3.1) but the result appears to be anomalous since cobalt was detected below the GWPS during the August and November 2022 sampling events.

Although not a COC, lithium was present above the established GWPS (1.8 mg/L) in samples collected from MW-05, MW-06, and MW-18, and MW-87 throughout 2022, and at MW-56 in November 2022. The lithium concentrations in these samples ranged from 1.9 to 2.8 mg/L. Notably, all these wells are downgradient of the SIT. The results of an evaluation of the exceedances and groundwater quality downgradient of the SIT are discussed in Sections 4.3 and 4.4.

Radium and selenium were present above the respective GWPSs (5 picocurries per liter [pCi/L]) and 0.092 mg/L, respectively) in samples collected in November 2022 from MW-16 and MW-56, respectively. Radium was detected at a concentration of 5.1 picocurries per liter (pCi/L) at MW-16. Selenium was detected at a concentration of 0.30 mg/L at MW-56, which exceeds the GWPS of 0.092 mg/L. Radium has historically been detected below the GWPS at MW-16 and selenium has consistently been detected above the GWPS at MW-56 located downgradient of the SIT.

URS: Fluoride is present at concentrations above the GWPS in groundwater downgradient of the URS. The extent of concentrations that exceed the GWPS is limited to the footprint of the former unit and roughly 200 ft downgradient of the former unit (**Figure 4-5**). During the reporting period, fluoride exceeded the GWPS at the following downgradient wells: MW-66, MW-67, MW-68, and MW-69. Although concentrations have declined in these wells since initial characterization of impacts and the removal of the URS, the extent of fluoride concentrations that exceed the GWPS has not changed.

Supplementary Well MW-11: Groundwater samples were collected from a supplementary well located downgradient of the DFADA (MW-11), which was first sampled in November 2021. As a supplementary well, MW-11 is not part of the certified CCR monitoring system for either the DFADA or Multiunit 1. MW-11 was added to the monitoring program in 2020 to better understand the impacts of seepage intercept system operations. Since MW-11 is completed in the Lewis Shale, the BTVs identified for Multiunit 1 (which are based on data collected from MW-49A and MW-74) in **Table 3-1** are the most applicable. All Appendix III constituent concentrations from MW-11 were less than the Multiunit 1 BTVs except for sulfate and total dissolved solids (TDS) which were notably elevated. Sulfate concentrations at MW-11 in May and November 2022 were 62,000 and 69,000 mg/L, respectively. TDS concentrations at MW-11 in May and November 2022 were 85,000 and 96,000 mg/L, respectively (**Appendix K**). Cobalt and molybdenum were also analyzed in samples collected from MW-11 during the 2022 sampling events. Cobalt concentrations at MW-11 in May and November 2022 were 0.022 and 0.019 mg/L, respectively, which exceeds the established Multiunit 1 GWPS of 0.01 mg/L; elevated levels of cobalt at this well do not appear to be consistent with data collected upgradient and in the vicinity of this well which merits further evaluation. Molybdenum concentrations from samples collected during the 2022 sampling events were reported below the minimum laboratory reporting limits (LRLs). Monitoring of MW-11 will continue in the following reporting period and comparisons to water quality of other nearby Multiunit 1 supplementary monitoring wells is warranted.

4.3 PROGRESS ON REMEDY SELECTION FOR THE URS AND MULTIUNIT 1

In response to GWPS exceedances at Multiunit 1 and the URS and pursuant to 40 CFR §257.96(a), an ACM was prepared in 2019 (Wood, 2019C) to evaluate the performance of several combined corrective measures to address groundwater impacts resulting from Multiunit 1 and the URS. Since completing the ACM, various evaluations and pre-design studies necessary to support the selection and design of remedies for Multiunit 1 and the URS have been conducted (Wood, 2020b; Wood, 2021).

4.3.1 CORRECTIVE MEASURES PRE-DESIGN STUDIES

Evaluations and pre-design studies completed during the 2022 reporting period are described below.

Continued Additional Monitoring at the Multiunit 1 – An expanded list of supplementary wells and constituents across the Site were monitored during the reporting period. The water quality data from these wells has helped to refine the delineation of elevated concentrations of cobalt and molybdenum in groundwater downgradient of Multiunit 1 and the SIT. Spatially and temporally heterogeneous concentrations of cobalt and molybdenum around the Multiunit 1 are further discussed in Section 4.2 alongside updated plume maps.

Evaluation of Groundwater Conditions Downgradient of Multiunit 1 – To further evaluate the historical exceedances of cobalt and molybdenum at Multiunit 1 wells and especially wells downgradient of the intercept trench systems, the groundwater monitoring program was expanded to include additional supplementary wells and additional analytes. Quarterly sampling was conducted at select wells and samples analyzed for select Appendix III and IV constituents and additional water quality constituents including potassium, magnesium, sodium, iron, and alkalinity as calcium carbonate.

In addition to the increased sampling, transducers were installed in wells upgradient and downgradient of SIT to record and evaluate water level changes in the area at greater frequency than twice a year. Wells equipped with transducers to monitor water levels are identified in **Table 1-2**. The flow monitoring station installed within Chaco Wash became operational in February 2022 and the data collected analyzed as part of this evaluation. A technical memorandum that summarizes this evaluation is included in **Appendix F**. Initial evaluation of data collected up through the third quarter of 2022 around the trench systems indicate that the SIT is performing as designed and preventing contaminated groundwater from migrating toward Chaco Wash.

The concentrations of cobalt and molybdenum at wells downgradient of the SIT were less than their respective GWPSs during 2022 semiannual sampling. Exceedances observed during previous reporting periods are likely attributable to:

- Sampling and/or analytical inconsistencies at DMX-3, MW-24, and MW-57, and
- Presence of aquifer fines in samples that contain naturally occurring inorganic compounds due to inadequate well development or a significant period of well disuse; evapoconcentration of metals due to dewatering of the aquifer caused by trench operations and/or contributions of groundwater from Chaco Wash for concentrations at MW-18 and MW-87.

Water levels in wells upgradient of the SIT are 10 to 30 ft higher than water levels at wells downgradient of the SIT. Water levels in Chaco Wash measured in 2022 were higher than water levels in several adjacent wells. This suggests that Chaco Wash may be a losing reach along the Site boundary and that surface water infiltration could influence groundwater quality in these wells.

4.3.2 PUBLIC MEETING

As per 40 CFR §257.96(e), a public meeting must be held with interested and affected parties to present the results of the ACM at least 30 days prior to selecting remedies for each CCR unit. To comply with this requirement for the URS and Multiunit 1, APS conducted a virtual meeting on August 15, 2022 and two in-person public meetings held on August 15 and 16, 2022.

The virtual meeting was conducted to provide stakeholders the option of engaging virtually given concerns related to the COVID-19 pandemic. The meeting included APS subject matter experts discussing a series of informative story boards using the Zoom virtual meeting platform. The one-hour presentation was simulcast live on KNDN Radio, a local radio station, which also provided translation into Diné. Questions were taken from online and call-in inquiries, with panelists providing responses in real time.

In-person public meetings were held at two different locations: the Farmington Civic Center and the Nenahnezad Chapter House. These public meetings were formatted to allow participants to move through a series of information stations where they were able to learn about the project, submit comments, and engage directly with APS subject matter experts to get answers to their questions.

Notification of the public meetings was provided via promotion with live announcements on KNDN during daily broadcasts, a flyer distributed to Four Corners Power Plant employees, and via email directly to key stakeholders,

including the manager of the Nenahnezad Chapter House. A project microsite supported the public meeting and outreach effort as a hub for communication about the public meetings, proposed corrective measures, and stakeholder feedback.

4.3.3 REMEDY SELECTION REPORTS FOR THE URS AND MULTIUNIT 1

During the reporting period, APS initiated the process of selecting remedies for the URS and Multiunit 1 that meet the requirements of 40 CFR §257.97(b). Pursuant to 40 CFR §257.97(a) and §257.91(f), a remedy selection report for the URS and Multiunit 1 will be prepared and remedial activities at the URS and Multiunit 1 will begin within 90 days of remedy selection.

4.4 INTERIM RESPONSE MEASURES

While additional pre-design studies supporting remedy selection were progressed during the reporting period, APS has implemented several interim response measures at Multiunit 1 and the URS to limit impacts to groundwater. The interim response measures will also help to evaluate the effectiveness of potential remedial technologies. The interim response measures implemented during the reporting period and planned for continued implementation in 2023 are summarized below.

Operation of the Northern Intercept Trench and Southern Intercept Trench. APS currently operates a 7,600-ft long seepage intercept trench system that was installed in two interconnected sections (the Northern Intercept Trench [NIT] and the SIT) along the western boundary of the Site lease boundary. The purpose of the intercept trench system is to intercept and collect seepage from the closed and existing CCR units as it flows westward towards Chaco Wash, thus preventing any potential groundwater contamination from impacting the wash (Wood, 2019b). The NIT was constructed and placed into service in 2011 and the SIT was constructed and placed into service in 2013. The trench system replaced an extraction well system that was assessed as ineffective. The extraction well system has not been decommissioned but does not contribute appreciable amounts of extracted groundwater to seepage collected system operations. In 2021, two new extraction wells were added to seepage collection system operations upgradient of the NIT (MW-82S and EW-17); only EW-17 remained operable in 2023.

In 2022, 2.6 million gallons were pumped from the NIT with a daily average of 7,067 gallons per day (gpd) and 19.3 million gallons were pumped from the SIT for a daily average of 52,949 gpd.

An estimated total mass removed of cobalt and molybdenum was calculated for the operating systems at the NIT and SIT over the past year. The estimated contaminant mass removed from the groundwater by these systems in 2022 is based on the annualized average flow rates and average constituent concentration measured at each system. There is currently flow metering equipment available to estimate flow rates at the NIT Seepage collection systems (i.e., Sump-7, Sump-8, and EW-17) and at the SIT seepage collection systems (i.e., Sump-9, Sump-10, Sump-11, Sump-12, Sump-13, Sump-14-1, Sump-15-1, Sump-16-1, Sump-17, and Sump-18). In addition, the contaminant mass removed during aquifer testing performed in 2022 at each area was included. **Tables 4-1**, and **4-2** display the results of this calculation. The total estimated mass removed at the NIT was 1.03pounds and at the SIT was 21.23 pounds for a total removal of 22.56 pounds of cobalt and molybdenum in 2022. Sump 14 was reported as being out of service since September 2022 and groundwater samples were unable to be collected at this location during the October sampling event so only May 2022 sample concentrations were used in the calculation for this location. Additionally, samples were not collected at EW-17 during the reporting period so this location was not included in the mass removal calculation.

Operation of Extraction Wells at the URS. The system became operational in February 2022, following the installation of pumps, piping, and an electrical control system at the URS extraction wells CM-01 and CM-02. The Construction Completion report is included in **Appendix E**. Since the start of operation, approximately 725,000 gallons have been pumped from the URS extraction wells for a daily average of 2,258 gpd. An estimated total mass removed of the COC fluoride was calculated since the start of operations in February 2022. Since the groundwater quality in the extraction wells has not been monitored consistently, the estimated contaminant mass removed from the groundwater by these systems is based on the average flow rates measured at each well and the average

constituent concentration measured at nearby monitoring wells, (i.e., MW-66, MW-67, MW-68, and MW-69) in 2022. The results of this calculation are included in **Tables 4-2** and **4-3**. The total estimated mass of fluoride removed from wells in the vicinity of the former URS was 94 pounds in 2022.

4.5 SEMI-ANNUAL PROGRESS REPORT ON REMEDY SELECTION FOR MULTIUNIT 1 AND THE URS

40 CFR §257.97(a) requires the preparation of semi-annual reports which document the progress of remedy selection for CCR units that have potentially impacted groundwater until the remedy is selected. Accordingly, a semi-annual report was prepared during the reporting period on July 15, 2022 which describes the progress of remedy selection for Multiunit 1 and the URS. This semi-annual report is included as **Appendix N**.

This Annual Report for 2022 fulfills the requirements of 40 CFR §257.97(a) for a subsequent semi-annual progress report by providing updates on remedy selection for Multiunit 1 and the URS (Section 4.3). Future planned activities related to remedy selection for Multiunit 1 and the URS are documented in Section 5.0.

4.6 CCR UNIT CLOSURE ACTIVITIES

During the reporting period APS progressed CCR unit closure activities as outlined in the following sections.

4.6.1 URS CLOSURE

As documented in previous annual reports, APS provided notice of its intent to close the URS on December 10, 2018, pursuant to 40 CFR §257.101(a)(1) and §257.101(b)(1). This unit is currently in the closure process per the unit's closure plan (AECOM, 2016) which states the URS will be closed by removal. The URS has been demolished and both CCR and visually impacted soil underlying the unit were removed as of December 14, 2018. A new concrete tank (referred to as the Upper Retention Tank [URT]) was constructed to serve the function of the URS and was placed in service on December 10, 2018. In accordance with 40 CFR §257.102(c), closure of the URS will not be complete until concentrations of fluoride in groundwater downgradient of the unit decline to less than the GWPS for this constituent. The SDAWP update prepared during the 2022 reporting period specifically addresses unit closure statistical evaluation procedure to be used once concentrations decline to a level supporting analysis.

4.6.2 CWTP CLOSURE

APS provided notice of its intent to close the CWTP on November 23, 2020, pursuant to 40 CFR §257.101(a)(1) and §257.101(b)(1). The unit had not triggered corrective action and was in detection monitoring at the time discharges to the unit ceased. Upon suspension of discharges to the CWTP, flows were directed to a new sedimentation tank system constructed to serve the function of the CWTP (i.e., treatment of ash-impacted wastewater prior to discharge to Morgan Lake through a NPDES permitted outfall).

The CWTP is being closed in accordance with its closure plan (AECOM, 2016) which includes closure by removal of CCR solids through mechanical excavation and hydraulic dredging. During the reporting period, APS issued a contract to the dredging contractor in January 2022. After mobilizing to the site in August 2022, the contractor performed detailed surveys of the unit and conducted a drilling program to verify the extent of material to be dredged. After incorporation of this information into a detailed computer model that interfaces with site equipment, dredging began in early December 2022. It is anticipated that dredging will continue throughout most of 2023.

4.6.3 MULTIUNIT 1 CLOSURE

APS provided notice of its intent to close the LAI/LDWP (Multiunit 1) during the previous reporting period on April 10, 2021, pursuant to 40 CFR §257.101(a)(1). Discharges to the LAI (flue gas desulfurization (FGD) waste) were suspended at that time and are currently being blended with fly ash and placed in the DFADA.

The closure plans for the LAI (AECOM, 2016) and LDWP (AECOM, 2016) state that CCR in these units will be closed in place and capped with an evapotranspiration cover. Dewatering of the units must occur prior to capping to safely construct the final cover system. During the reporting period, geotechnical assessment of the deposits in the LAI continued to support cover system design with placement of lightweight aggregate material in multiple test roads. Declining surface water levels in the LDWP indicate that flows into the LDWP from the LAI have significantly decreased; ponded water occurred in less than half of the LDWP footprint as of the end of 2022.

Planned activities for 2023 include conduct of a dewatering pilot study in the LAI, completion of cover system design, rerouting of LAI discharges (i.e., decant tower and toe drain seepage) from the LDWP to the RWP, and initiation of stormwater improvements supporting unit closure.

5 KEY ACTIVITIES FOR THE UPCOMING YEAR

During 2023, the following key activities will likely be conducted to support CCR groundwater monitoring and corrective action compliance at the Site:

- *Preparation of an Annual Groundwater Monitoring and Corrective Action Report for 2023* – Per 40 CFR §257.90€, an annual report must be prepared no later than January 31 of the year following the calendar year documented in the report.
- *Continued Detection Monitoring at the CWTP, DFADA, and RWP with Evaluation for SSIs Over Background* – Per 40 CFR §257.94(b), detection monitoring (including analysis of collected samples for Appendix III constituents) must continue on a semi-annual basis. On an ongoing basis, it will be determined whether there has been an SSI over background at the CCR units undergoing detection monitoring within 90 days of sampling and analysis (40 CFR §257.93[h][2]).
- *Initiation of Assessment Monitoring for CCR Units with an SSI over Background (as applicable)* – Per 40 CFR §257.94(e)(1), within 90 days of detecting an SSI over background levels for any Appendix III constituent, an assessment monitoring program must be established.
- *Continued Assessment Monitoring at Multiunit 1 and the URS* – While corrective action evaluation progresses, assessment monitoring (including analysis of collected samples for Appendix III and Appendix IV constituents) must be conducted on a semi-annual basis per 40 CFR §257.95(b) and (d)(1).
- *Continued Dredging of the CWTP* –Hydraulic dredging began in December 2022 as part of closure activities and is planned to continue throughout 2023. Groundwater monitoring will continue through the closure process.
- *Continued update to the groundwater model for the URS* – The previous groundwater model is under review and will be updated with existing Site conditions associated with the installation of the interim corrective measures.
- *LAI and LDWP Closure Activities* – This will include a dewatering pilot study, the completion of cover system design, rerouting of LAI discharges from the LDWP to the RWP, and initiation of stormwater improvements supporting unit closure.
- *Preparation of Remedy Selection Report* – APS will select remedies for Multiunit 1 and the URS that meet the requirements of 40 CFR §257.97(b) and document the selection process in a remedy selection report prepared for each unit per 40 CFR §257.97(a).
- *Initiation of Remedial Activities* – Per 40 CFR §257.91(f), remedial activities at Multiunit 1 and the URS will begin within 90 days of selecting a remedy for each unit.

Since the CCR Rule is implemented in phases based on analysis of data collected during the groundwater monitoring program, the foregoing list is subject to change and only includes reasonably probable activities that will occur in 2023; this list is not comprehensive.

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TABLES

Table 1-1
Description of Coal Combustion Residuals Units

CCR Unit	Location	Function	Operation	Size/Construction	History
Upper Retention Sump (URS)	*Plant Area* NW1/4 of Section 36, T29N, R16W	*Single CCR unit* . Impoundment. Surge pond for FGD system.	FGD system discharge is discharged into the sump via 10 plus controlled/monitored lines. Pond contents are recirculated back into the FGD process via a pump chamber located on the south end of the pond. Solids are periodically removed from the sump.	- 1.07 acres in areal extent - Soil-cement liner on bottom and inside slopes	Placed in service around 1983. Discharges to the unit ceased as of December 10, 2018 and were thereafter directed to a new concrete tank (i.e., the Upper Retention Tank) that is located within the former footprint of the URS and serves the function of the former unit. Closure activities included removal of CCR and associated impacted materials from the URS with placement in the DFADA prior to backfilling the area with clean fill.
Combined Waste Treatment Pond (CWTP)	*East of Plant, Adjacent to Morgan Lake* SE1/4 of Section 25, T29N, R16W	*Single CCR Unit* . Impoundment. Detention pond used for NPDES treatment; settling and stabilization basin for ash-impacted and other Plant wastewater flows prior to discharge to Morgan Lake in accordance with an NPDES permit.	The primary source of water to the CWTP is from hydrobins which separate transport water from bottom ash generated in plant Units 4 and 5. Seven earthen basins in the western edge of the CWTP promote sediment settling prior to the water decanting into the main portion of the CWTP and then overflowing into the cooling water discharge canal at the northeast corner of the pond.	- 13.4 acres in areal extent	Constructed in 1978. Discharges to the unit ceased as of November 23, 2020 and were thereafter directed to a new concrete tank (i.e., the Bottom Ash Sluice Water Recycle Tank) that is located northeast of the coal storage area. CCR removal from the unit was initiated in 2022.
Lined Ash Impoundment (LAI)	*Disposal Area* E1/2 of Section 34, T29N, R16W	*Part of a CCR multiunit with the LDWP* that receives fly ash, flue gas desulfurization (FGD) waste and associated residuals as a slurry from the plant.	Waste is discharged into the pond in the northeast portion of the pond. Decanted flow discharges via a vertical drop inlet structure and through a toe drain into the LDWP.	- 126.8 acres in areal extent (high water line) - 60 mil HDPE liner - 5,364 acre-ft design capacity - 5,275.2 ft AMSL maximum working level	Constructed on top of closed Ash Ponds 4 and 5 and placed in service in 2004. Discharges to the unit ceased as of April 10, 2021 and were thereafter blended with dry fly ash and placed in the DFADA.
Lined Decant Water Pond (LDWP)	*Disposal Area* E1/2 of Section 34, T29N, R16W	*Part of a CCR multiunit with the LAI* that receives decanted water from the LAI. Impoundment.	Decanted water is discharged into the pond from the LAI via gravity; the water is pumped from the LDWP back to the plant for reuse in operations.	- 45 acres in areal extent - Two 60 mil HDPE liners separated by a leak detection layer - 435 acre-ft design capacity - 5,213.2 ft AMSL maximum working level	Constructed on top of closed Ash Pond 3 and placed in service in 2004. Notice of intent to close provided on April 10, 2021.
Dry Fly Ash Disposal Area (DFADA)	*Disposal Area* SE1/4 of Section 34, T29N, R16W	*Single CCR unit* . Landfill. Disposal of dry fly ash, bottom ash, FGD (blended with dry fly ash), and construction debris.	The DFADA is filled in general accordance with a stacking plan. Leachate generated from the DFADA cells is pumped into trucks and used for dust control.	- 4 conjoined cells (DFADA 1, 2, 3 and 4) with an areal extent of 137.7 acres total - 8,028 acre-ft design capacity - DFADA 1: compacted clay overlain by 60 mil HDPE liner and drainage layer - DFADA 2, 3 and 4: geosynthetic clay liner overlain by 60 mil HDPE liner and drainage layer - Leachate collection system drains each DFADA cell	Constructed in 2007 (DFADA 1), 2012 (DFADA 2), 2014 (DFADA 3) and 2021 (DFADA 4).
Return Water Pond (RWP)	*Plant Area* NW1/4 of Section 36, T29N, R16W	*Single CCR unit.* Lined impoundment for the temporary storage of FGD system waste, drain down from the LAI, treated sewage wastewater flow, and water pumped from the site seepage collection system.	The RWP consists of two cells; FGD system waste generated at the plant can be discharged into an FGD cell while all other liquids are discharged into a liquid cell. A spillway between the two cells allows liquid in the FGD system waste to decant into the liquid cell. Liquids from the liquid cell are pumped back to the plant for reuse in plant operations.	- 5.1 acres in areal extent - Composite liner system and associated LCRS comprised of a primary 60 mil HDPE liner, a geosynthetic drainage layer, a secondary 60 mil HDPE liner, and an underlying geosynthetic clay liner - 38.6 acre-ft design capacity - 5379 ft AMSL maximum working level	Constructed in 2019 and placed into service November 2020.

Abbreviations:

AMSL - above mean sea level
CCR - Coal combustion residuals
CWTP - Combined Waste Treatment Pond
DFADA - Dry Fly Ash Disposal Area
FGD - flue gas desulfurization
ft - feet
HDPE - high density polyethylene
LAI - Lined Ash Impoundment
LCRS - leak collection and removal system
LDWP - Lined Decant Water Pond
NPDES - National Pollutant Discharge Elimination System
RWP - Return Water Pond
URS - Upper Retention Sump

Table 1-2
CCR Groundwater Monitoring System Summary

Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
MW-12R[1]	DFADA	Background	Lewis Shale	4/10/2018	40	5,270.12	5,268.23	22	32	10	5,246.20	5,236.20	5,228.23
MW-55R	DFADA	Background	Lewis Shale	9/13/2015	95	5,243.96	5,241.36	73	93	20	5,168.46	5,148.46	5,146.36
MW-10	DFADA	Downgradient Boundary	Lewis Shale	3/12/1987	35	5,150.71	5,149.65	13	33	20	5,136.65	5,116.65	5,114.65
MW-13	DFADA	Downgradient Boundary	Lewis Shale	8/31/1987	60	5,150.75	5,149.52	35	55	20	5,114.62	5,094.62	5,089.52
MW-44	DFADA	Downgradient Boundary	Lewis Shale	3/28/2012	40	5,146.89	5,145.15	14	24	10	5,131.65	5,121.65	5,105.15
MW-48	DFADA	Downgradient Boundary	Lewis Shale	5/14/2013	60	5,165.96	5,163.43	35	60	25	5,128.43	5,103.43	5,103.43
MW-11	DFADA	Supplementary	Lewis Shale	3/13/1987	50	5,111.96	5,110.48	30	50	20	5,080.58	5,060.58	5,060.58
MW-43	Multiunit 1	Background	Lewis Shale	3/24/2012	60	5,271.58	5,269.42	16	26	10	5,253.42	5,243.42	5,209.42
MW-49A	Multiunit 1	Background	Lewis Shale	5/18/2013	68	5,288.62[(b)]	5,285.29[(b)]	50	65	15	5,231.38	5,216.38	5,213.38
MW-50A	Multiunit 1	Background	Lewis Shale	5/7/2013	63	5,335.67	5,333.20	28	43	15	5,305.20	5,290.20	5,270.20
MW-51	Multiunit 1	Background	Lewis Shale	4/28/2013	80	5,288.14	5,285.14	20	30	10	5,265.14	5,255.14	5,205.14
MW-74	Multiunit 1	Background	Lewis Shale	1/18/2017	40	5,219.09	5,216.70	8	18	10	5,208.60	5,198.60	5,176.70
MW-07	Multiunit 1	Downgradient Boundary	Lewis Shale	3/11/1987[(a)]	60	5,149.32	5,148.29	15	35	20	5,133.59	5,113.59	5,088.29
MW-08	Multiunit 1	Downgradient Boundary	Lewis Shale	3/11/1987[(a)]	74	5,122.56	5,120.85	28	48	20	5,093.15	5,073.15	5,046.85
MW-40R	Multiunit 1	Downgradient Boundary	Lewis Shale	9/17/2015	25	5,137.43	5,134.83	14	24	10	5,120.53	5,110.53	5,109.83
MW-61	Multiunit 1	Downgradient Boundary	Lewis Shale	9/16/2015	35	5,129.19	5,126.59	24	34	10	5,102.39	5,092.39	5,091.59
MW-75	Multiunit 1	Downgradient Boundary	Lewis Shale	3/15/2017	41	5,126.80	5,124.80	29	39	10	5,095.80	5,085.80	5,083.80
MW-76	Multiunit 1	Downgradient Boundary	Lewis Shale	3/16/2017	33	5,116.23	5,114.30	12	27	15	5,102.50	5,087.50	5,081.30
MW-87[1, 2]	Multiunit 1	Downgradient	Lewis Shale	11/28/2018	50	5,076.53	5,074.29	15	45	30	5,059.29	5,029.29	5,024.29
DMX-03[1]	Multiunit 1	Supplementary	Lewis Shale	4/14/1992	38	5,085.50	5,084.85	18	38	20	5,066.85	5,046.85	5,046.85
DMX-04[1, 2]	Multiunit 1	Supplementary	Lewis Shale	4/15/1992	51	5,073.00	5,072.11	31	51	20	5,041.11	5,021.11	5,021.11
DMX-06[1]	Multiunit 1	Supplementary	Lewis Shale	4/16/1992	35	5,077.40	5,076.42	15	35	20	5,061.42	5,041.42	5,041.42
MW-05[1, 2]	Multiunit 1	Supplementary	Lewis Shale	3/12/1987	49	5,088.50	5,087.31	29	49	20	5,058.21	5,038.21	5,038.21
MW-06[1, 2]	Multiunit 1	Supplementary	Lewis Shale	3/12/1987	49	5082.71	5,080.19	29	49	20	5,051.39	5,031.39	5,031.39
MW-15[1]	Multiunit 1	Supplementary	Lewis Shale	9/1/1987	53	5,093.93	5,092.28	22	52	30	5,070.08	5,040.08	5,039.58
MW-16[1]	Multiunit 1	Supplementary	Lewis Shale	9/2/1987	55	5,101.32	5,100.42	36	55	19	5,064.92	5,045.62	5,045.62
MW-17R[1, 2]	Multiunit 1	Supplementary	Lewis Shale	12/12/2013	32	5,093.09	5,090.43	17	32	15	5,073.93	5,058.93	5,058.43
MW-18[1, 2]	Multiunit 1	Supplementary	Lewis Shale	9/3/1987	55	5,089.10	5,088.06	26	55	30	5,062.56	5,033.06	5,033.06
MW-23R[1]	Multiunit 1	Supplementary	Lewis Shale	12/6/2013	42	5,101.53	5,099.08	21	41	20	5,078.08	5,058.08	5,057.58
MW-24[1]	Multiunit 1	Supplementary	Lewis Shale	9/05/1987	70	5,081.65	5,080.41	60	70	10	5,020.71	5,010.71	5,010.71
MW-34	Multiunit 1	Supplementary	Lewis Shale	6/9/2010	49	5078.33	5,077.34	24	49	25	5,053.34	5,028.34	5,028.34

Table 1-2
CCR Groundwater Monitoring System Summary

Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
MW-36R[1, 2]	Multiunit 1	Supplementary	Lewis Shale	12/12/2013	34	5,093.33	5,090.76	14	34	20	5,077.26	5,057.26	5,056.76
MW-38R[1]	Multiunit 1	Supplementary	Lewis Shale	12/13/2013	39	5,094.12	5,091.41	14	39	25	5,077.91	5,052.91	5,052.41
MW-45	Multiunit 1	Supplementary	Lewis Shale	5/19/2013	39	5,089.56	5,087.13	24	39	15	5,063.13	5,048.13	5,048.13
MW-46[2]	Multiunit 1	Supplementary	Lewis Shale	4/26/2013	26	5,064.30	5,061.91	16	26	10	5,045.91	5,035.91	5,035.91
MW-52	Multiunit 1	Supplementary	Lewis Shale	5/10/2013	82	5,210.41	5,208.06	67	82	15	5,141.06	5,126.06	5,126.06
MW-54	Multiunit 1	Supplementary	Lewis Shale	5/20/2013	91	5,217.82	5,218.38	76	91	15	5,142.38	5,127.38	5,127.38
MW-56[1, 2]	Multiunit 1	Supplementary	Lewis Shale	12/4/2013	37	5,091.49	5,089.14	26	36	10	5,063.14	5,053.14	5,052.64
MW-57[1, 2]	Multiunit 1	Supplementary	Lewis Shale	12/8/2013	43	5,088.30	5,085.70	22	42	20	5,063.70	5,043.70	5,043.20
MW-60	Multiunit 1	Supplementary	Lewis Shale	9/16/2015	25	5144.10	5141.50	14	24	10	5,127.16	5,117.16	5,116.50
EW-14[2]	Multiunit 1	Supplementary	Lewis Shale	10/26/2010	48	5079.65	5,078.85	18	48	30	5,060.85	5,030.85	5,030.65
EW-15	Multiunit 1	Supplementary	Lewis Shale	10/26/2010	50	5077.73	5,076.82	19	49	30	5,057.82	5,027.82	5,027.20
EW-16	Multiunit 1	Supplementary	Lewis Shale	10/06/2020	50	5086.16	5,084.17	20	40	20	5,064.17	5,044.17	5,034.17
EW-17	Multiunit 1	Extraction	Lewis Shale	10/08/2020	50	5097.55	5,095.73	20	40	20	5,075.73	5,055.73	5,045.73
MW-62	CWTP	Downgradient Boundary	Pictured Cliffs Sandstone	9/28/2015	20	5,341.87	5,339.37	10	20	10	5,329.37	5,319.37	5,319.37
MW-63	CWTP	Downgradient Boundary	Pictured Cliffs Sandstone	9/25/2015	20	5,337.02	5,337.02	9	19	10	5,328.02	5,318.02	5,317.02
MW-64	CWTP	Downgradient Boundary	Pictured Cliffs Sandstone	9/26/2015	25	5,337.66	5,337.66	10	20	10	5,327.66	5,317.66	5,312.66
MW-65	CWTP	Downgradient Boundary	Pictured Cliffs Sandstone	9/27/2015	20	5,339.74	5,337.24	8	18	10	5,329.24	5,319.24	5,317.24
MW-66	URS	Downgradient Boundary	Pictured Cliffs Sandstone	9/27/2015	33	5,344.69	5,344.70	15	25	10	5,329.70	5,319.70	5,311.70
MW-67	URS	Downgradient Boundary	Pictured Cliffs Sandstone	9/11/2015	31	5,352.76[(b)]	5,353.80[(b)]	20	30	10	5,334.42	5,324.42	5,323.02
MW-68	URS	Downgradient Boundary	Pictured Cliffs Sandstone	9/10/2015	30	5,353.58	5,353.95	19	29	10	5,334.95	5,324.95	5,323.95
MW-69	URS	Downgradient Boundary	Pictured Cliffs Sandstone	9/9/2015	35	5,357.66	5,355.26	24	34	10	5,330.96	5,320.96	5,320.26
MW-70	URS	Downgradient Boundary	Pictured Cliffs Sandstone	9/30/2015	53	5,371.12	5,368.62	40	50	10	5,328.62	5,318.62	5,315.62
MW-83	URS	Downgradient	Pictured Cliffs Sandstone	11/29/2018	35	5,343.15	5,341.51	14	29	15	5,327.51	5,312.51	5,306.51
MW-84	URS	Downgradient	Pictured Cliffs Sandstone	11/18/2018	35	5,338.23	5,339.34	10	30	20	5,329.34	5,309.34	5,304.34
MW-85	URS	Downgradient	Pictured Cliffs Sandstone	11/18/2018	35	5,352.78	5,353.69	15	30	15	5,338.69	5,323.69	5,318.69
MW-86	URS	Downgradient	Pictured Cliffs Sandstone	11/17/2018	35	5,338.76	5,338.74	10	30	20	5,328.74	5,308.74	5,303.74
CM-01	URS	Extraction	Pictured Cliffs Sandstone	12/13/2019	37	5,353.42	5,351.19	20	30	10	5,331.19	5,321.19	5,314.19
CM-02	URS	Extraction	Pictured Cliffs Sandstone	12/13/2019	37	5,348.50	5,346.54	20	30	10	5,326.54	5,316.54	5,309.54
CM-03	URS	CM Predesign	Pictured Cliffs Sandstone	12/12/2019	37	5,354.85	5,352.32	20	30	10	5,332.32	5,322.32	5,315.32
CM-04	URS	CM Predesign	Pictured Cliffs Sandstone	12/12/2019	36	5,353.94	5,351.81	20	30	10	5,331.81	5,321.81	5,315.81
MW-71	URS/CWTP	Background	Pictured Cliffs Sandstone	3/1/2016	50	5,362.91	5,363.62	23	43	20	5,341.12	5,321.12	5,313.62

Table 1-2
CCR Groundwater Monitoring System Summary

Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
MW-72	URS/CWTP	Background	Pictured Cliffs Sandstone	3/2/2016	61	5,381.62	5,379.09	51	61	10	5,328.39	5,318.39	5,318.09
MW-73	URS/CWTP	Background	Pictured Cliffs Sandstone	1/18/2017	45	5,353.95	5,351.90	29	44	15	5,323.00	5,308.00	5,306.90
MW-88	RWP	Downgradient Boundary	Pictured Cliffs Sandstone	12/6/2019	31	5365.25	5362.71	20	30	10	5,342.71	5,332.71	5,331.71
MW-89	RWP	Downgradient Boundary	Pictured Cliffs Sandstone	12/6/2019	35	5370.21	5367.51	24	34	10	5,343.51	5,333.51	5,332.51
MW-90	RWP	Downgradient Boundary	Pictured Cliffs Sandstone	12/7/2019	40	5374.08	5372.93	29	39	10	5,343.93	5,333.93	5,332.93
DMX-01	Other Disposal Areas	Supplementary	Lewis Shale	4/15/1992	39	5,098.02	5,097.49	19	39	20	5,078.49	5,058.49	5,058.49
IP-01	Other Disposal Areas	Supplementary	Lewis Shale	12/3/2013	39	5,101.81	5,099.39	14	39	20	5,085.89	5,060.89	5,060.89
IP-02	Other Disposal Areas	Supplementary	Lewis Shale	December 2013	28	5,090.79	5,088.27	17	27	10	5,071.27	5,061.27	5,060.77
IP-03	Other Disposal Areas	Supplementary	Lewis Shale	December 2013	35	5,091.08	5,088.68	24	34	10	5,064.68	5,054.68	5,054.18
IP-04	Other Disposal Areas	Supplementary	Lewis Shale	December 2013	33	5,095.92	5,093.46	22	32	10	5,071.46	5,061.46	5,060.96
IP-05	Other Disposal Areas	Supplementary	Lewis Shale	December 2013	41	5,094.43	5,091.88	21	41	20	5,071.38	5,051.38	5,050.88
MW-01	Other Disposal Areas	Supplementary	Lewis Shale	9/06/1987	22	5,140.43	5,138.48	12	22	10	5,126.88	5,116.88	5,116.88
MW-03	Other Disposal Areas	Supplementary	Lewis Shale	3/13/1987	44	5,126.73	5,125.52	14	44	30	5,111.27	5,081.27	5,081.27
MW-19	Other Disposal Areas	Supplementary	Lewis Shale	9/3/1987	50	5,127.40	5,126.34	29	50	21	5,097.14	5,076.64	5,076.64
MW-21	Other Disposal Areas	Supplementary	Lewis Shale	9/4/1987	30	5,155.04	5,154.47	11	30	19	5,143.87	5,124.47	5,124.47
MW-22	Other Disposal Areas	Supplementary	Lewis Shale	9/4/1987	30	5,156.51	5,156.30	10	30	20	5,145.90	5,125.90	5,125.90
MW-26	Other Disposal Areas	Supplementary	Lewis Shale	9/06/1987	51	5,139.26	5,138.36	41	51	10	5,097.86	5,087.86	5,087.86
MW-30	Other Disposal Areas	Supplementary	Lewis Shale	6/7/2010	23	5,091.67	5,092.06	13	23	10	5,079.06	5,069.06	5,069.06
MW-31	Other Disposal Areas	Supplementary	Lewis Shale	6/7/2010	24	5,092.59	5,089.96	14	24	10	5,075.96	5,065.96	5,065.96
MW-32	Other Disposal Areas	Supplementary	Lewis Shale	6/7/2010	20	5,087.65	5,084.94	10	20	10	5,074.94	5,064.94	5,064.94
MW-77S	Other Disposal Areas	Supplementary	Lewis Shale	11/8/2018	80	5094.94	5092.35	24	44	20	5,068.35	5,048.35	5,012.35
MW-78S	Other Disposal Areas	Supplementary	Lewis Shale	11/13/2018	80	5,088.79	5,086.51	24	44	20	5,062.51	5,042.51	5,006.51
MW-79S	Other Disposal Areas	Supplementary	Lewis Shale	11/20/2018	58	5,086.90	5,084.35	16	36	20	5,068.35	5,048.35	5,026.35
MW-80S	Other Disposal Areas	Supplementary	Lewis Shale	11/16/2018	81	5,086.80	5,084.29	35	55	20	5,049.29	5,029.29	5,003.29
MW-81	Other Disposal Areas	Supplementary	Lewis Shale	11/26/2018	36	5,086.41	5,084.07	13	33	20	5,071.07	5,051.07	5,048.07

Table 1-2
CCR Groundwater Monitoring System Summary

Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
MW-82S	Other Disposal Areas	Supplementary	Lewis Shale	11/27/2018	65	5,093.37	5,091.02	17	37	20	5,074.02	5,054.02	5,026.02

Notes and Abbreviations:
Source of presented information is AECOM, 2017 and Sakura Engineering & Surveying, 2017, 2019, and 2020.
Vertical datum is NAVD 88
[1] - Quarterly monitored well
[2] - Water level monitored via transdcuer
[(a)] - Estimated
[(b)] - New surveyed elevation after wellhead modifications

AMSL - Above mean sea level
bgs - below ground surface
CCR - coal combustion residual(s)
CWTP - Combined Waste Treatment Pond
DFADA - Dry Fly Ash Disposal Area
ft - feet
RWP - Return Water Pond
URS - Upper Retention Sump

Table 3-1
BTVs and GWPSs for Site CCR Units

		CWTP		URS				Multiunit 1			
	Constituent	BTV [mg/L]	Reference	BTV [mg/L]	Reference	GWPS [mg/L]	Reference	BTV [mg/L]	Reference	GWPS [mg/L]	Reference
Appendix III Constituents	Boron	2.0 (MW-62,MW-63) 0.73 (MW-64,MW-65)	4 4	1.9	1	N/A		1.3	1	N/A	
	Calcium	536 (MW-62,MW-63) 486 (MW-64,MW-65)	4 4	540	1			740	1		
	Chloride	631	4	710	1			5,700	1		
	Fluoride	1.8 (MW-62) 2.3 (MW-63) 1.6 (MW-64) 2.1 (MW-65)	4	>RL	1			0.8	1		
	pH[1]	6.50 - 6.90 (MW-62,MW-63) 7.23 - 7.66 (MW-64) 7.00 - 7.44 (MW-65)	4 4 4	<LPL or >UPL	1			7.4	1		
	Sulfate	13,000	1	13,000	1			5,100	1		
	TDS	20,000	1	20,000	1			15,000	1		
Appendix IV Constituents	Antimony	N/A		0.01	3	0.01	3	0.01	2	0.01	2
	Arsenic			0.013	3	0.013	3	0.0086	2	0.01	2
	Barium			0.05	3	2	3	0.04	2	2	2
	Beryllium			0.001	3	0.004	3	0.001	2	0.004	2
	Cadmium			0.001	3	0.005	3	0.002	2	0.005	2
	Chromium			0.01	3	0.1	3	0.02	2	0.1	2
	Cobalt			0.016	3	0.016	3	0.01	2	0.01	2
	Fluoride			4	3	4	3	5	2	5	2
	Lead			0.005	3	0.015	3	0.01	2	0.015	2
	Lithium			0.8	3	0.8	3	1.8	2	1.8	2
	Mercury			0.0002	3	0.002	3	0.0002	2	0.002	2
	Molybdenum			0.011	3	0.1	3	0.12	2	0.1	2
	Selenium			0.45	3	0.45	3	0.092	2	0.092	2
	Thallium			0.0014	3	0.002	3	0.017	2	0.017	2
	Combined Radium[2]			5.4	3	5.4	3	4.4	2	5	2

1) Units are standard units
2) Units are picocuries per liter

Abbreviations:

BTV - Background Threshold Value
CWTP - Combined Waste Treatment Pond
GWPS - Groundwater Protection Standard
LPL - lower prediction limit
mg/L - milligrams per liter
N/A - not applicable
RL - reporting limit
UPL - upper prediction limit
URS - Upper Retention Sump

References:

1 - *Statistical Analysis of Initial Detection Monitoring Appendix III Constituent Data* . Arizona Public Service Four Corners Power Plant - Fruitland, New Mexico. Wood Technical Memorandum dated January 12, 2018 and revised August 20, 2018.

2 - *CCR Groundwater Assessment Monitoring Statistical Analysis and Results for Multiunit 1.* Arizona Public Service Four Corners Power Plant - Fruitland, New Mexico. Wood Technical Memorandum dated October 15, 2018.

3 - *CCR Groundwater Assessment Monitoring Statistical Analysis and Results for the Upper Retention Sump.* Arizona Public Service Four Corners Power Plant - Fruitland, New Mexico. Wood Technical Memorandum dated October 15, 2018.

4 - *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the CWTP Appendix III Constituent Data Collected Through August 2022.* Arizona Public Service Four Corners Power Plant - Fruitland, New Mexico. WSP Technical Memorandum dated October 10, 2022.

Table 3-2
CCR Groundwater Monitoring Event Summary for 2022

CCR UNIT	Well ID	Monitoring System Well Type	February 1, 8-9, 2022 (Detection Resampling)	February 1, 8-9 2022 (Performance Evaluation Sampling)	May 20-26, 2022 (Detection Sampling)	May 20-26, 2022 (Assessment Sampling)	August 9-14, 2022 (Detection Resampling)	August 9-14, 2022 (Performance Evaluation Sampling)	September 1, 2022 (Performance Evaluation Sampling)	November 10-16, 2022 (Detection Sampling)	November 10-16, 2022 (Assessment Sampling)	Number of Field Original Samples Collected in 2022[b]
CWTP	MW-62	CCR	X	---	X	---	---	---	---	X	---	6
	MW-63	CCR	---	---	X	---	X	---	---	X	---	6
	MW-64	CCR	---	---	X	---	---	---	---	X	---	7
	MW-65	CCR	X	---	X	---	X	---	---	X	---	5
DFADA	MW-10	CCR	---	---	---	---	---	---	---	---	---	9
	MW-11	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-12R1	CCR	---	---	---	---	---	---	---	---	---	9
	MW-13	CCR	---	---	---	---	---	---	---	---	---	9
	MW-44	CCR	---	---	---	---	---	---	---	---	---	9
	MW-48	CCR	---	---	---	---	---	---	---	---	---	9
	MW-55R	CCR	---	---	---	---	---	---	---	---	---	9
Multiunit 1	MW-01	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-03	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-05	Supplementary	---	X	---	X	---	X	---	---	X	5
	MW-06	Supplementary	---	X	---	X	---	X	X	---	X	4
	MW-07	CCR	---	---	---	X	---	---	---	---	X	7
	MW-08	CCR	---	---	---	X	---	---	---	---	X	7
	MW-15	Supplementary	---	X	---	X	---	X	---	---	X	5
	MW-16	Supplementary	---	X	---	X	---	X	---	---	X	5
	MW-17R	Supplementary	---	X	---	X	---	X	---	---	X	5
	MW-18	Supplementary	---	X	---	X	---	X	---	---	X	5
	MW-19	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-21	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-23R	Supplementary	---	X	---	X	---	X	---	---	X	5
	MW-24	Supplementary	---	X	---	X	---	X	---	---	X	5
	MW-30	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-32	Supplementary	---	---	---	---	---	---	---	---	--	8
	MW-36R	Supplementary	---	X	---	X	---	X	---	---	X	5
	MW-38R	Supplementary	---	X	---	X	---	X	---	---	X	5
	MW-40R	CCR	---	---	---	--	---	---	---	---	--	7
	MW-43	CCR	---	---	---	--	---	---	---	---	--	7
	MW-49A	CCR	---	---	---	X	---	---	---	---	X	7
	MW-50A	CCR	---	---	---	--	---	---	---	---	--	7
	MW-51	CCR	---	---	---	---	---	---	---	---	--	8
	MW-52	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-56	Supplementary	---	X	---	---	---	X	---	---	X	6
	MW-57	Supplementary	---	X	---	X	---	X	---	---	X	5
	MW-60	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-61	CCR	---	---	---	X	---	---	---	---	X	7
	MW-74	CCR	---	---	---	--	---	---	---	---	--	7
	MW-75	CCR	---	---	---	X	---	---	---	---	X	7
	MW-76	CCR	---	---	---	--	---	---	---	---	--	7
	MW-77S	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-78S	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-79S	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-80S	Supplementary	---	---	---	---	---	---	---	---	--	8
	MW-81	Supplementary	---	---	---	X	---	---	---	---	X	7
	MW-82S	Supplementary	---	---	---	X	---	---	---	---	---	8
	MW-87	CCR	---	X	---	X	---	X	---	---	X	5
	DMX-01	Supplementary	---	---	---	X	---	---	---	---	X	7
	DMX-03	Supplementary	---	X	---	X	---	X	---	---	X	5
	DMX-04	Supplementary	---	X	---	X	---	X	---	---	X	5
	DMX-06	Supplementary	---	X	---	X	---	X	---	---	X	5
	SUMP-1	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-2	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-3	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-7	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-8	Seepage	---	---	---	---	---	---	---	---	X	8
	SUMP-9	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-10	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-11	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-12	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-13	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-14[c]	Seepage	---	---	---	X	---	---	---	---	--	7
	SUMP-15	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-16	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-17	Seepage	---	---	---	X	---	---	---	---	X	7
	SUMP-18	Seepage	---	---	---	X	---	---	---	---	X	7
RWP	MW-88	CCR	---	---	---	---	---	---	---	---	---	9
	MW-89	CCR	---	---	---	---	---	---	---	---	---	9
	MW-90	CCR	---	---	---	---	---	---	---	---	---	9
URS	MW-66	CCR	---	---	---	X	---	---	---	---	X	7
	MW-67	CCR	---	---	---	X	---	---	---	---	X	7
	MW-68	CCR	---	---	---	X	---	---	---	---	X	7
	MW-69	CCR	---	---	---	X	---	---	---	---	X	7
	MW-70	CCR	---	---	---	X	---	---	---	---	X	7
	MW-71[a]	CCR	---	---	---	X	X	---	---	---	X	6
	MW-72[a]	CCR	---	---	---	X	X	---	---	---	X	6
	MW-73[a]	CCR	---	---	---	X	X	---	---	---	X	6
	MW-83	CCR	---	---	---	X	---	---	---	---	X	7
	MW-84	CCR	---	---	---	X	---	---	---	---	X	7
	MW-85	CCR	---	---	---	---	---	---	---	---	X	8
	MW-86	CCR	---	---	---	X	---	---	---	---	X	7
	CM-01	Extraction	---	---	---	---	---	---	---	--	--	7
	CM-02	Extraction	---	---	---	---	---	---	---	--	--	7
	CM-03	Extraction	---	---	---	---	---	---	---	--	--	7
	CM-04	Extraction	---	---	---	---	---	---	---	--	--	7
Analyzed Constituents			*Select App III Constituents*	*App III, Select App IV, and Additional Constituents*	*App III Constituents*	*App III, App IV, and Additional Constituents*	*Select App III Constituents*	*App III, A Select App IV, and Additional Constituents*	*App III, A Select App IV, and Additional Constituents*	*App III Constituents*	*App III, App IV, and Additional Constituents*	594

Notes:
[a] Background wells for both the CWTP and URS.
[b] Totals exclude field duplicate samples.
[c] Sump out of service since Sept. 6, 2022
X - Well Monitored
--- - Well Not Monitored

Abbreviations:
App - Appendix
CCR - coal combustion residuals
CWTP - Combined Waste Treatment Pond
DFADA - Dry Fly Ash Disposal Area
RWP - Return Water Pond
URS - Upper Retention Sump

Table 3-3
Aquifer Properties and Groundwater Flow Calculations

Hydrogeologic Unit (CCR Unit)	Estimated Hydraulic Conductivity [ft/d]	Estimated Effective Porosity [Vol/Vol]	Sampling Event	Calculated Hydraulic Gradient [ft/ft]	Calculated Groundwater Flow Direction [degrees from North]	Estimated Groundwater Flow Rate [ft/d]
Pictured Cliffs Sandstone (URS)	6.0[a]	0.25[b]	May 2022	0.0007	340	0.02
			November 2022	0.001	340	0.02
Pictured Cliffs Sandstone (CWTP)			May 2022	0.0007	192	0.02
			November 2022	0.0014	254	0.03
Lewis Shale (Multiunit 1)	0.00028[b]	0.05[b]	May 2022	0.03	256	0.0002
			November 2022	0.03	256	0.0002

Notes:

Wells used in Pictured Cliffs Sandstone URS calculations: MW-66, MW-67, MW-68, MW-69, MW-70, MW-71, MW-72, MW-73, MW-83, MW-84, MW-85, MW-

Wells used in Pictured Cliffs Sandstone CWTP calculations: MW-62, MW-63, MW-64, MW-65

Wells used in Lewis Shale calculations: MW-07, MW-08, MW-17R, MW-38R, MW-40R, MW-49A, MW-61, MW-75, MW-76, MW-60, MW-16, MW-15, MW-87, MW-44, MW-56, MW-06, MW-57, DMX-04, DMX-06

CCR - Coal Combustion Residuals

CWTP - Combined Waste Treatment Pond

d - day

ft - feet

URS - Upper Retention Sump

Vol/Vol - volume per volume

References:

[a] AECOM, 2017

[b] Freeze, R.A. and Cherry, J.A., 1979.

Table 4-1
Total COC Mass Removed from Intercept Trench Operation in 2022

Total Mass Removed (lbs)			**22.26**
Total Volume Pumped (gallons)			**21,401,020**
Year	**2022**		
Constituent	**NIT (lbs/yr)**	**SIT (lbs/yr)**	**Total (lbs/yr)**
Cobalt	0.95	20.89	21.84
Molybdenum	0.08	0.34	0.43
Total (lb/yr)	**1.03**	**21.23**	**22.26**

Abbreviations:
lbs - pounds
yr - year
NIT - Northern Intercept Trench
SIT - Southern Intercept Trench

Table 4-2
Individual Site Chemistry and Flow Volumes

Source Area		NIT									SIT					
Well/Seep		S7			S8			EW-17			S-9			S-10		
	Flow (gpd)	2,969			3,787			329			2,885			22,266		
	Analyte	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr
Appendix IV	Antimony	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Arsenic	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Barium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Beryllium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Cadmium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Chromium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Cobalt	0.07	0.0017	0.64	0.0270	0.0009	0.31	NM	--	--	0.021	0.0005	0.18	0.180	0.0335	12.22
	Fluoride	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Lead	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Lithium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Mercury	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Molybdenum	0.00	0.0001	0.04	0.0039	0.0001	0.05	NM	--	--	0.002	0.0000	0.01	0.001	0.0002	0.08
	Selenium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Thallium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Total (lbs)			***0.7***			***0.4***			***0.0***			***0.2***			***12.3***

Notes:
[1] Water chemistry results from May 2022 only.
[2] Water chemistry averaged from MW-66, MW-67, MW-68, and MW-69 2022 sampling results

Abbreviations:
gpd - gallons per day
lbs - pound
mg/L - milligrams per liter
yr - year

Table 4-2
Individual Site Chemistry and Flow Volumes

Source Area		SIT														
Well/Seep		S-11			S-12			S-13			S-14-1[1]			S-15-1		
	Flow (gpd)	1,845			2,312			3,147			8,827			7,220		
	Analyte	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr
Appendix IV	Antimony	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Arsenic	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Barium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Beryllium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Cadmium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Chromium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Cobalt	0.170	0.0026	0.96	0.071	0.0014	0.50	0.12	0.0031	1.14	0.17	0.0125	4.58	0.06	0.0035	1.27
	Fluoride	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Lead	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Lithium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Mercury	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Molybdenum	0.001	0.0000	0.01	0.001	0.0000	0.01	0.00	0.0000	0.01	0.00	0.0001	0.03	0.01	0.0004	0.16
	Selenium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Thallium	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
	Total (lbs)			***1.0***			***0.5***			***1.1***			***4.6***			***1.4***

Notes:
[1] Water chemistry results from May 2022 only.
[2] Water chemistry averaged from MW-66, MW-67, MW-68, and MW-69 2022 sampling results

Abbreviations:
gpd - gallons per day
lbs - pound
mg/L - milligrams per liter
yr - year

Table 4-2
Individual Site Chemistry and Flow Volumes

Source Area		SIT									URS					
Well/Seep		S-16-1			S-17			S-18			CM-01/URS-01 (gpd)[2]			CM-02/URS-02 (gpd)[2]		
	Flow (gpd)	537			318			2,419			241			2,998		
	Analyte	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr
Appendix IV	Antimony	NM	--	--	NM	--	--	NM	--	--	0.002	0.00	0.00	0.002	0.00	0.01
	Arsenic	NM	--	--	NM	--	--	NM	--	--	0.001	0.00	0.00	0.001	0.00	0.01
	Barium	NM	--	--	NM	--	--	NM	--	--	0.016	0.00	0.01	0.016	0.00	0.15
	Beryllium	NM	--	--	NM	--	--	NM	--	--	0.001	0.00	0.00	0.001	0.00	0.01
	Cadmium	NM	--	--	NM	--	--	NM	--	--	0.000	0.00	0.00	0.000	0.00	0.00
	Chromium	NM	--	--	NM	--	--	NM	--	--	0.002	0.00	0.00	0.002	0.00	0.01
	Cobalt	0.02	0.0001	0.04	0.00	0.0000	0.00	0.00	0.00	0.01	0.006	0.00	0.00	0.006	0.00	0.06
	Fluoride	NM	--	--	NM	--	--	NM	--	--	9.54	0.02	7.00	9.54	0.24	87.18
	Lead	NM	--	--	NM	--	--	NM	--	--	0.001	0.00	0.00	0.001	0.00	0.01
	Lithium	NM	--	--	NM	--	--	NM	--	--	0.335	0.00	0.25	0.335	0.01	3.06
	Mercury	NM	--	--	NM	--	--	NM	--	--	0.000	0.00	0.00	0.000	0.00	0.00
	Molybdenum	0.00	0.0000	0.00	0.00	0.0000	0.00	0.00	0.00	0.02	0.016	0.00	0.01	0.016	0.00	0.14
	Selenium	NM	--	--	NM	--	--	NM	--	--	0.044	0.00	0.03	0.044	0.00	0.40
	Thallium	NM	--	--	NM	--	--	NM	--	--	0.001	0.00	0.00	0.001	0.00	0.01
	Total (lbs)			***0.0***			***0.0***			***0.0***			***7.3***			***91.1***

Notes:
[1] Water chemistry results from May 2022 only.
[2] Water chemistry averaged from MW-66, MW-67, MW-68, and MW-69 2022 sampling results

Abbreviations:
gpd - gallons per day
lbs - pound
mg/L - milligrams per liter
yr - year

Table 4-3
Total COC Mass Removed from the URS Extraction System Operation in 2022

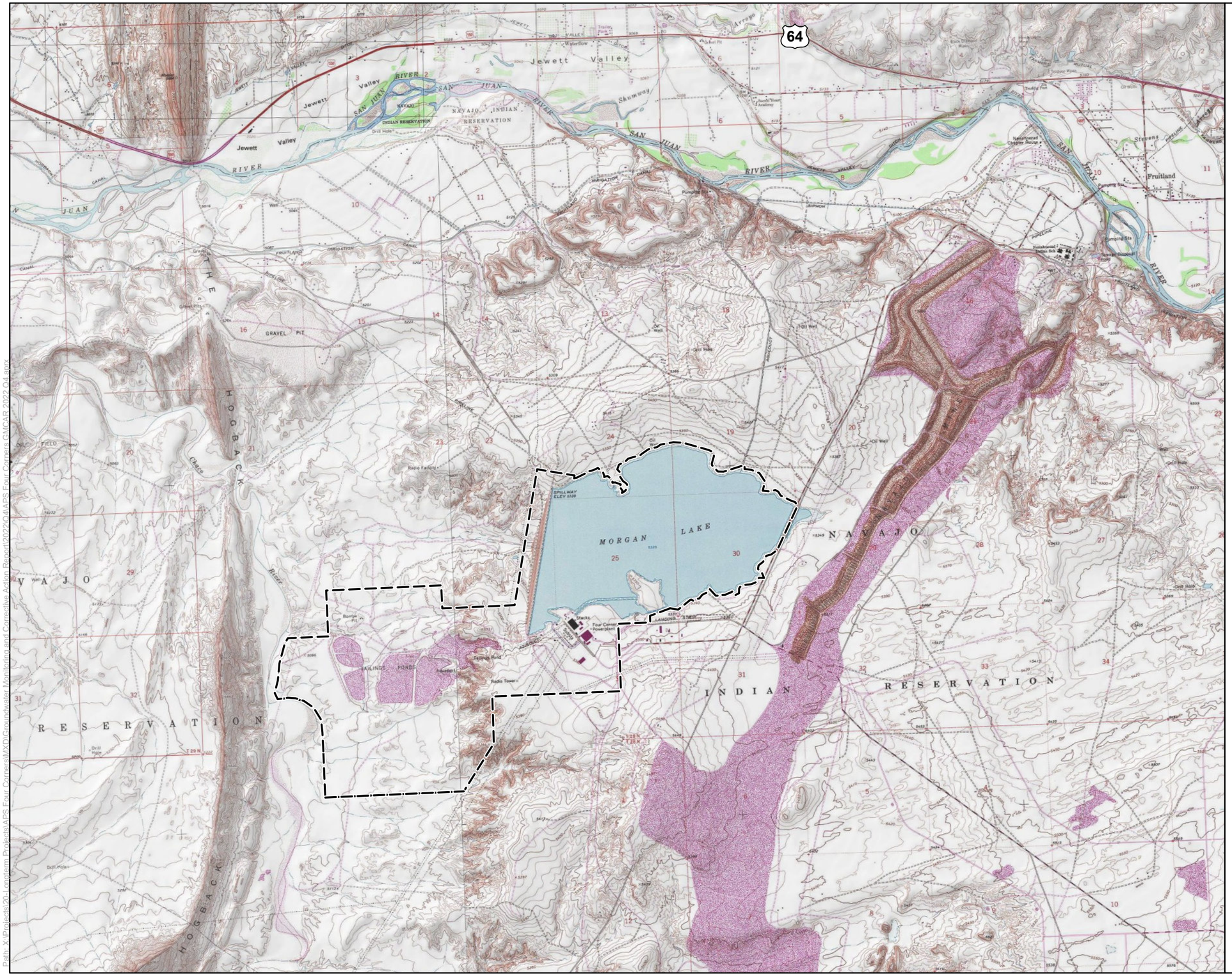
Total Mass Removed (lbs)		**94**
Total Volume Pumped (gallons)		**724,799**
Year	**2022**	
Constituent	**URS* (lbs/yr)**	**Total (lbs/yr)**
Fluoride	94	94
Total (lb/yr)	**94**	**94**

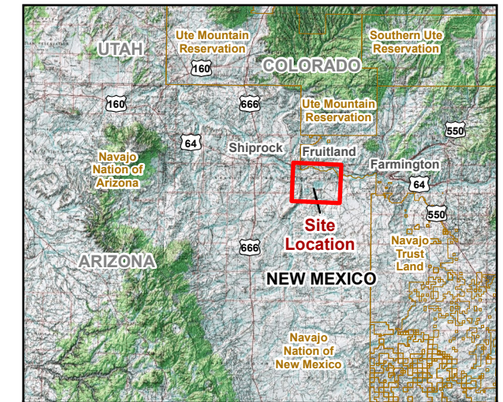
Notes:

*Flow calculated using totalizer readings from URS-01 and URS-02 and water chemistry averaged from MW-66, MW-67, MW-68, and MW-69 2022 sampling results

Abbreviations:
lbs - pounds
yr - year

FIGURES





Area of Detail

Legend

— — · Four Corners Power Plant Lease Boundary

0 0.4 0.8 Miles

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE **1-1**

Site Location Map

Job No.	14-2022-2006
PM:	MBH
Date:	1/6/2023
Scale:	1"= 0.8 miles

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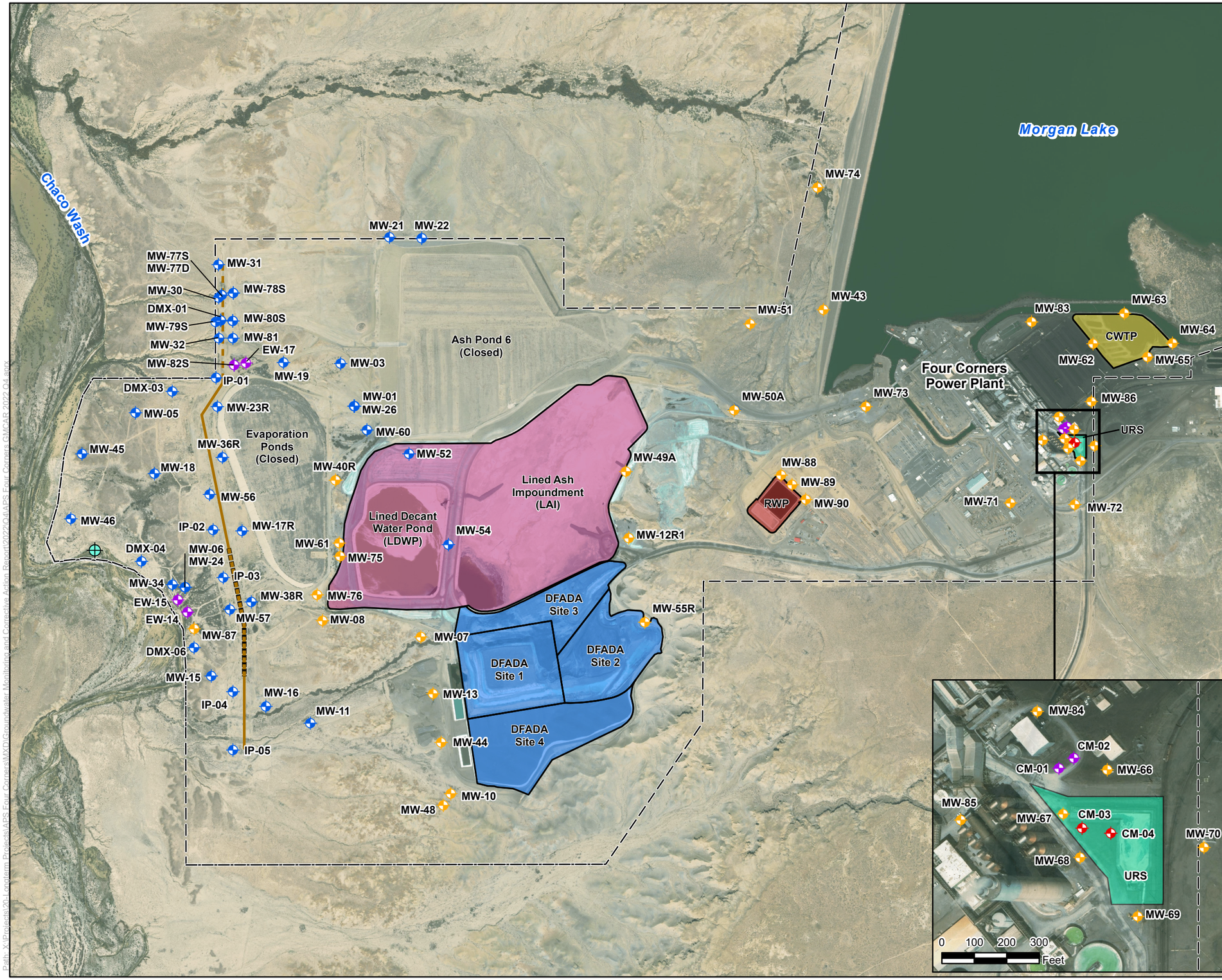

Legend

- CCR Monitoring Well Location
- Extraction Well
- Supplementary Site Monitoring Well Location
- CM Pre-Design Wells
- Chaco Wash Stream Monitoring Station (Approximate Location)
- FCPP Lease Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone

CCR Units

- Multiunit 1(LAI and LDWP)
- Dry Fly Ash Disposal Area (DFADA)
- Combined Waste Treatment Pond (CWTP)
- Upper Retention Sump (URS)
- Return Water Pond (RWP)

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 1-2

CCR Units and Monitoring System Summary

Job No.	14-2022-2006
PM:	MBH
Date:	1/27/2023
Scale:	1" = 1400'

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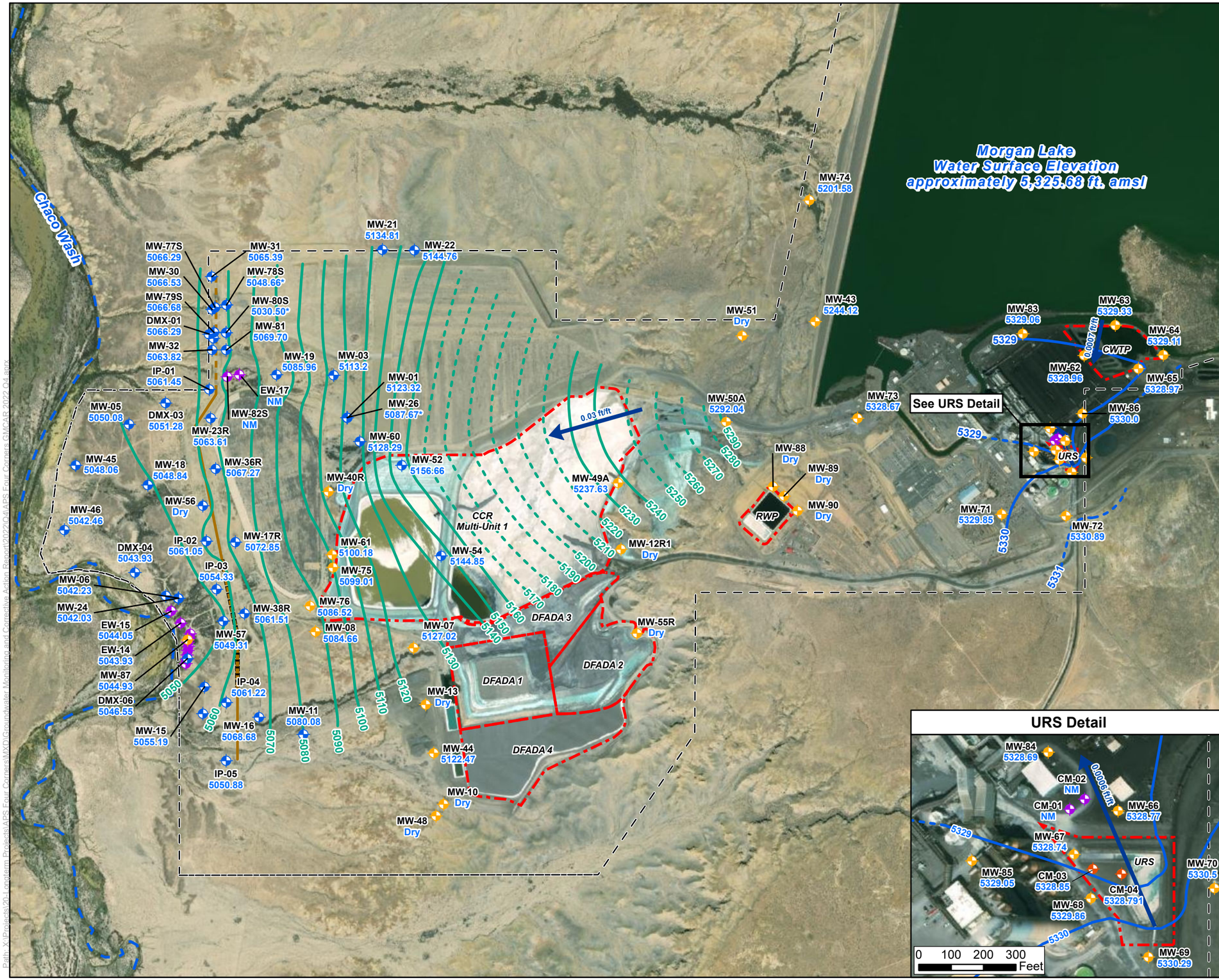

URS Detail

Legend

- CCR Monitoring Well Location
- Supplementary Site Monitoring Well Location
- Extraction Well Location
- CM Pre-Design Well Location
- Groundwater Elevation Contour (ft amsl) 10-Foot Contour Interval (Dashed Where Inferred)
- Groundwater Elevation Contour (ft amsl) 1-Foot Contour Interval (Dashed Where Inferred)
- Groundwater Flow Direction with Gradient (ft/ft)
- CCR Unit Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Four Corners Power Plant Lease Boundary
- Ephemeral Surface Water Feature

Notes and Abbreviations:

MW-83	Well Identification
5329.06	Groundwater Elevation (ft amsl)
NM	Not Measured
*	Well not used in potentiometric surface mapping
ft amsl	Feet above mean sea level
CCR	Coal Combustion Residuals
FCCP	Four Corners Power Plant

0 700 1,400 2,800 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 3-1

Potentiometric Surface Map May 2022

Job No.	14-2022-2006
PM:	MBH
Date:	1/27/2023
Scale:	1" = 1,400'

wsp

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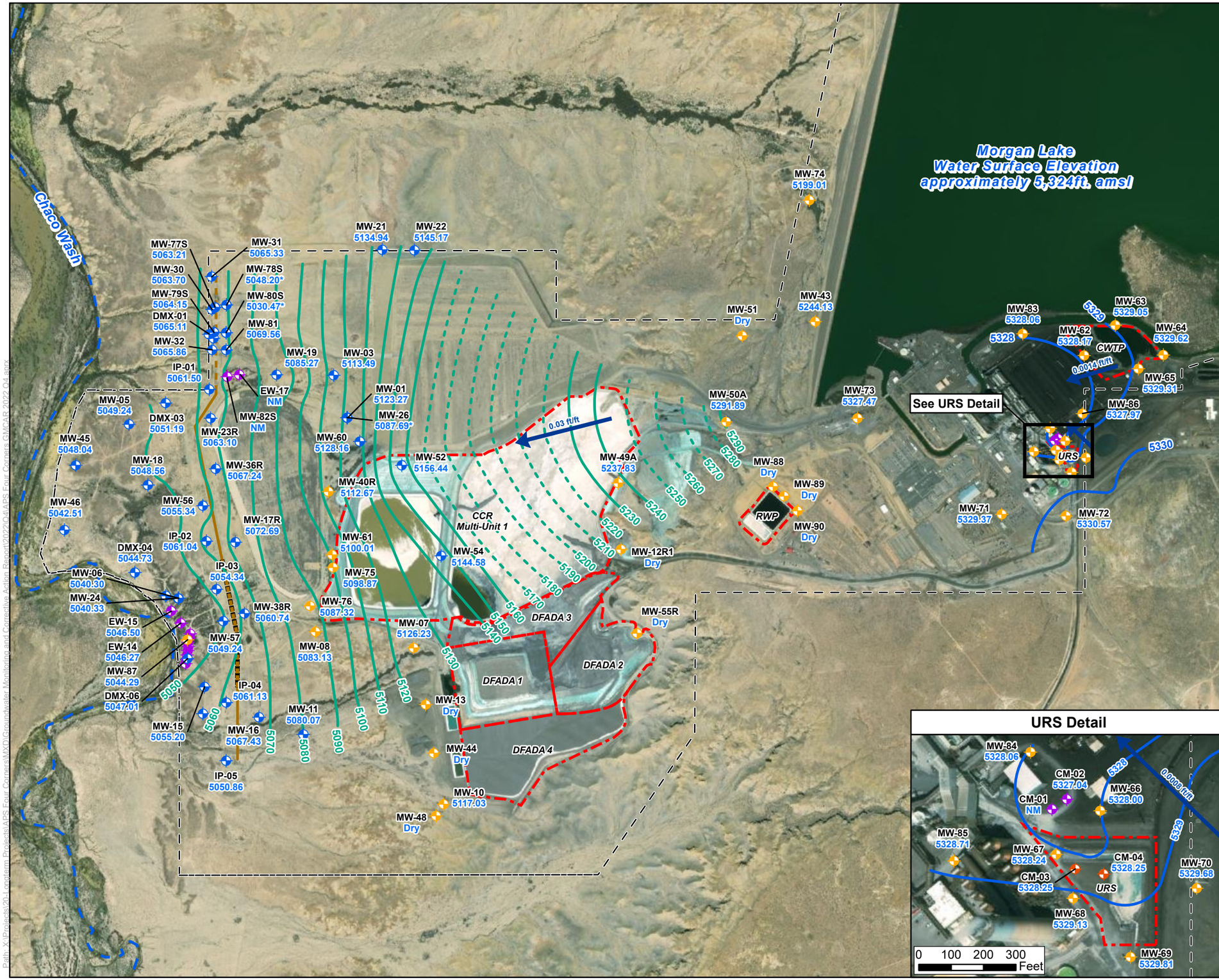

URS Detail

Legend

- Groundwater Elevation Contour (ft amsl) 10-Foot Contour Interval (Dashed Where Inferred)
- Groundwater Elevation Contour (ft amsl) 1-Foot Contour Interval (Dashed Where Inferred)
- Groundwater Flow Direction with Gradient (ft/ft)
- CCR Unit Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Four Corners Power Plant Lease Boundary
- Ephemeral Surface Water Feature
- CCR Monitoring Well Location
- Supplementary Site Monitoring Well Location
- Extraction Well Location
- CM Pre-Design Well Location

Notes and Abbreviations:

MW-83	Well Identification
5328.06	Groundwater Elevation (ft amsl)
NM	Not Measured
*	Well not used in potentiometric surface mapping
ft amsl	Feet above mean sea level
CCR	Coal Combustion Residuals
FCCP	Four Corners Power Plant

0 700 1,400 2,800 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 3-2

Potentiometric Surface Map November 2022

Job No.	14-2022-2006
PM:	MBH
Date:	1/27/2023
Scale:	1" = 1,400'

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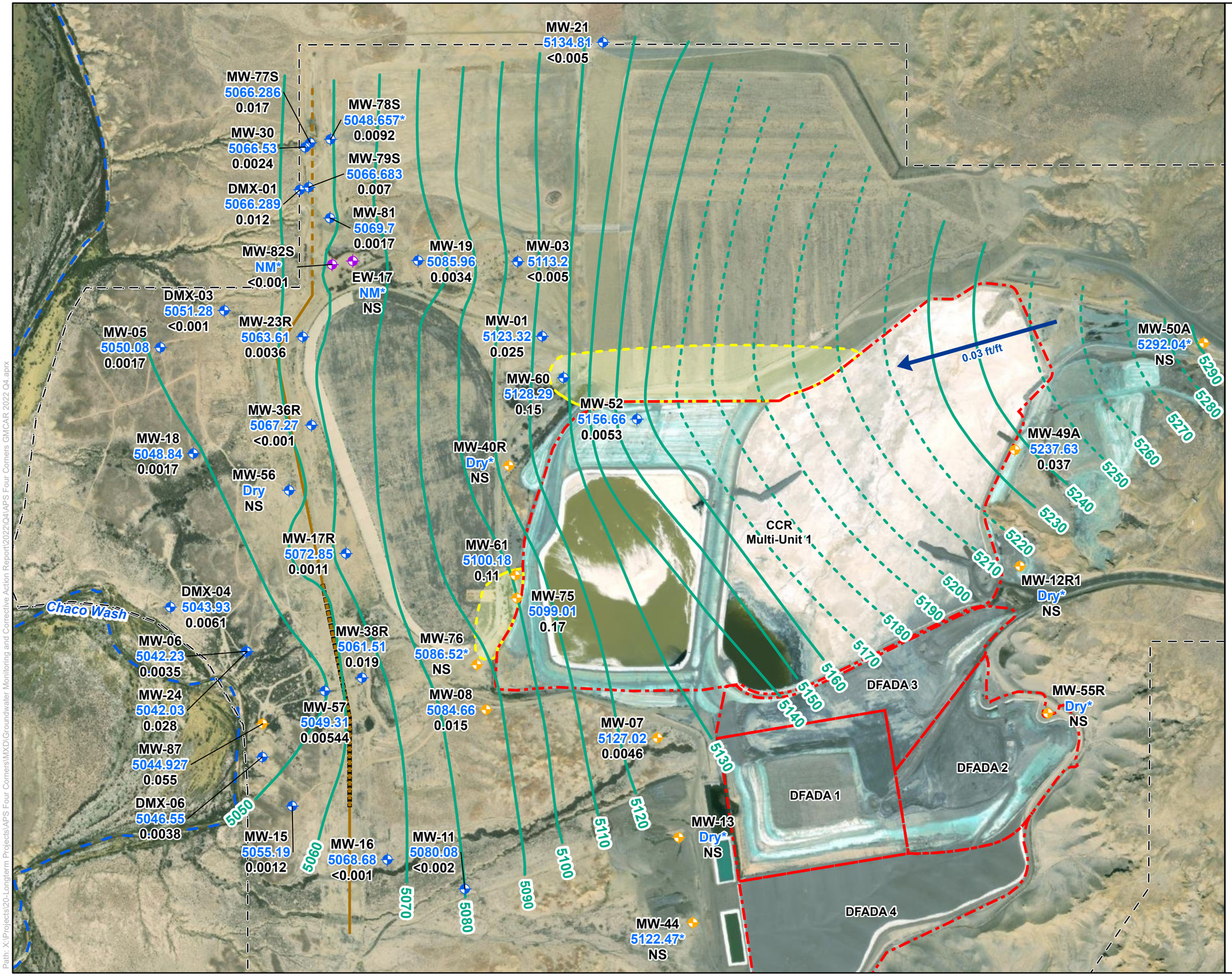

Legend

- CCR Monitoring Well Location
- Supplementary Site Monitoring Well Location
- Extraction Well Location
- CCR Unit Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Four Corners Power Plant Lease Boundary
- Groundwater Elevation Contour (ft amsl) 10-Foot Contour Interval (Dashed Where Inferred)
- FlowDirection

Molybdenum Concentration in Groundwater (May 2022)

- 0.1 mg/L
- GWPS (0.1 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

MW-52	Well Identification
5156.66	Groundwater Elevation (ft amsl)
0.0053	Molybdenum concentration (mg/L)
NM	Not Measured
NS	Not Sampled
*	Well not used in potentiometric surface mapping
ft amsl	Feet above mean sea level
mg/L	Milligrams per Liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800 1,600 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 4-1

Molybdenum Iso-Concentration Map for MultiUnit 1 - May 2022

Job No.	14-2022-2006
PM:	MBH
Date:	1/27/2023
Scale:	1" = 800'

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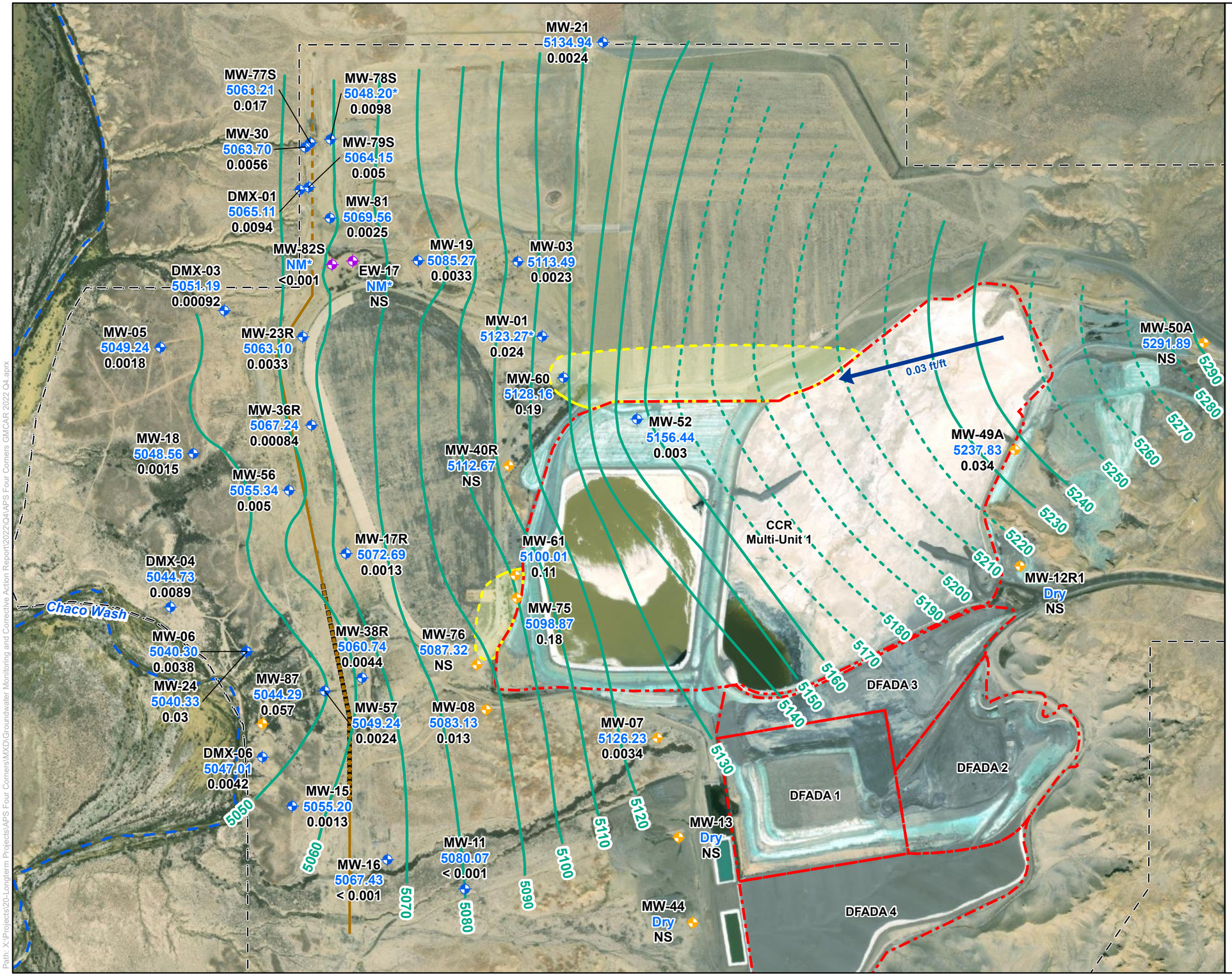

Legend

- CCR Monitoring Well Location
- Supplementary Site Monitoring Well Location
- Extraction Well Location
- CCR Unit Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Four Corners Power Plant Lease Boundary
- Groundwater Elevation Contour (ft amsl) 10-Foot Contour Interval (Dashed Where Inferred)
- FlowDirection

Molybdenum Concentration in Groundwater (November 2022)

- 0.1 mg/L
- GWPS (0.1 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

MW-52	Well Identification
5156.44	Groundwater Elevation (ft amsl)
0.003	Molybdenum concentration (mg/L)
NM	Not Measured
NS	Not Sampled
*	Well not used in potentiometric surface mapping
ft amsl	Feet above mean sea level
mg/L	Milligrams per Liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800 1,600 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 4-2

Molybdenum Iso-Concentration Map for MultiUnit 1 - November 2022

Job No.	14-2022-2006
PM:	MBH
Date:	1/27/2023
Scale:	1" = 800'

wsp

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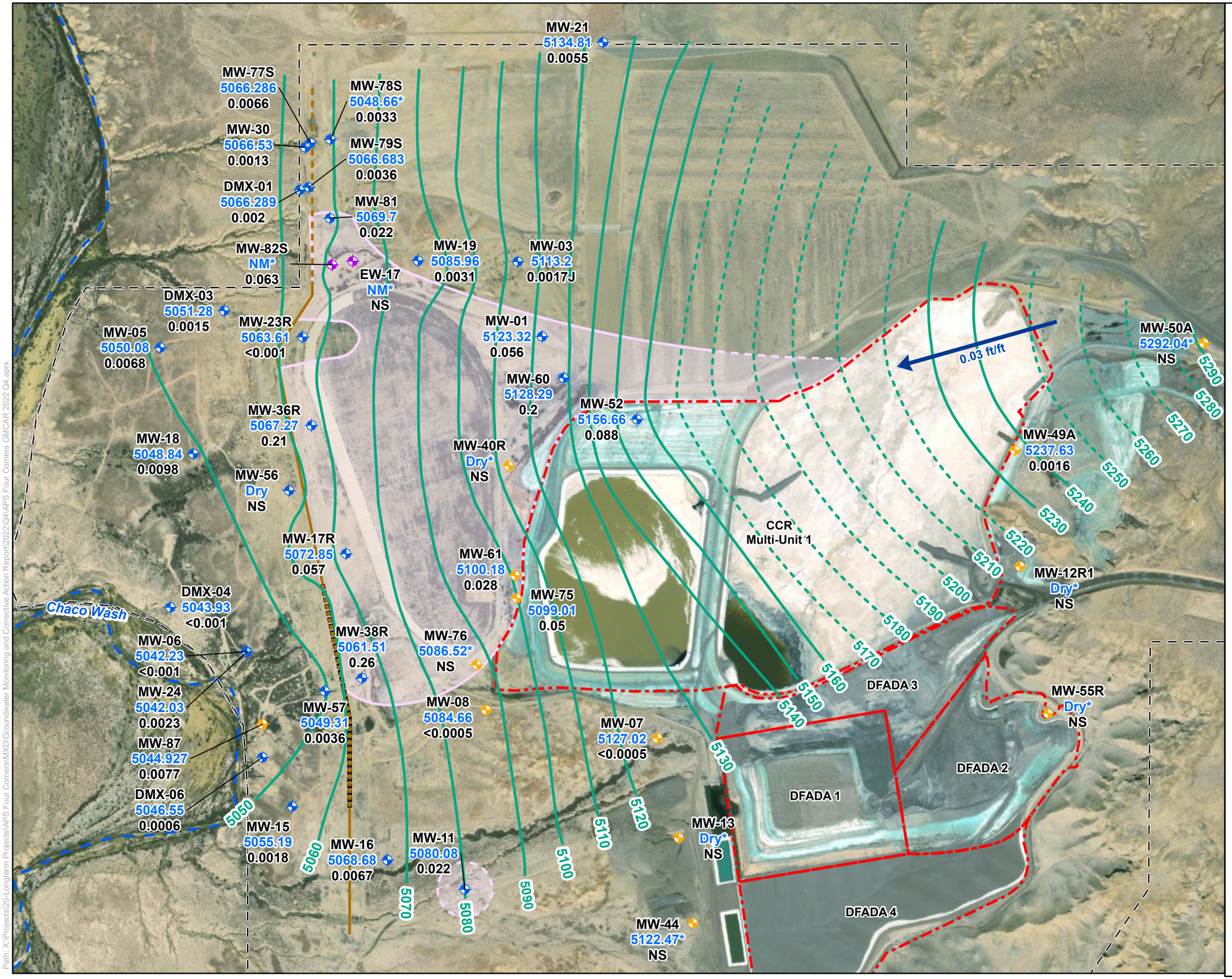

Legend

- CCR Monitoring Well Location
- Supplementary Site Monitoring Well Location
- Extraction Well Location
- CCR Unit Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Four Corners Power Plant Lease Boundary
- Groundwater Elevation Contour (ft amsl) 10-Foot Contour Interval (Dashed Where Inferred)
- FlowDirection

Cobalt Concentration in Groundwater (May 2022)

- 0.01 mg/L
- GWPS (0.01 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

MW-52	Well Identification
5156.66	Groundwater Elevation (ft amsl)
0.092	Cobalt concentration (mg/L)
NM	Not Measured
NS	Not Sampled
*	Well not used in potentiometric surface mapping
J	Result is estimated quantity
ft amsl	Feet above mean sea level
mg/L	Milligrams per Liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800 1,600 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 4-3

Cobalt Iso-Concentration Map for MultiUnit 1 - May 2022

Job No.	14-2022-2006
PM:	MBH
Date:	1/27/2023
Scale:	1" = 800'

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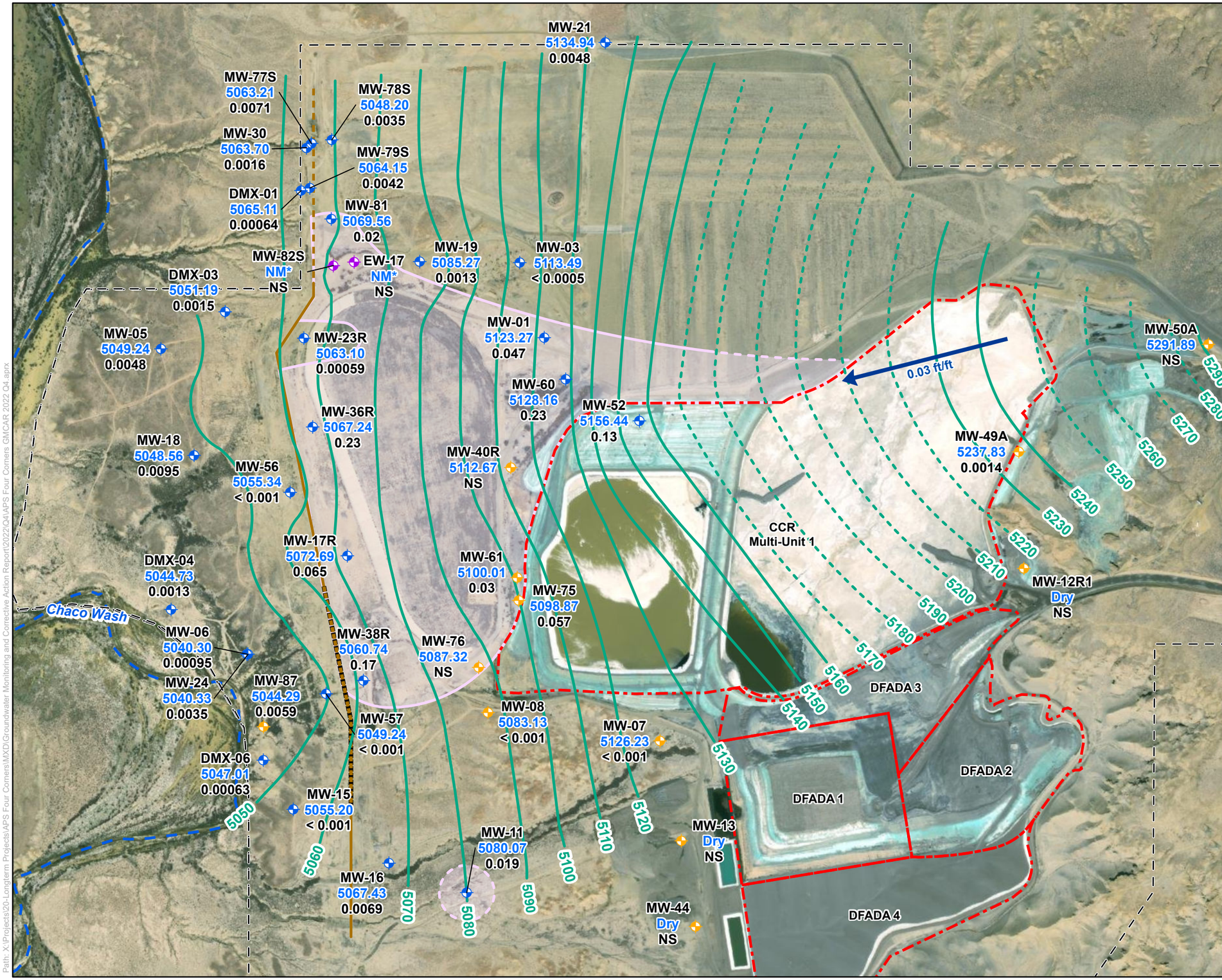

Legend

- CCR Monitoring Well Location
- Supplementary Site Monitoring Well Location
- Extraction Well Location
- CCR Unit Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Four Corners Power Plant Lease Boundary
- Groundwater Elevation Contour (ft amsl) 10-Foot Contour Interval (Dashed Where Inferred)
- FlowDirection

Cobalt Concentration in Groundwater (November 2022)

- 0.01 mg/L
- GWPS (0.01 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

MW-52	Well Identification
5156.44	Groundwater Elevation (ft amsl)
0.13	Cobalt concentration (mg/L)
NM	Not Measured
NS	Not Sampled
*	Well not used in potentiometric surface mapping
ft amsl	Feet above mean sea level
mg/L	Milligrams per Liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800 1,600 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 4-4

Cobalt Iso-Concentration Map for MultiUnit 1 - November 2022

Job No.	14-2022-2006
PM:	MBH
Date:	1/27/2023
Scale:	1" = 800'

wsp

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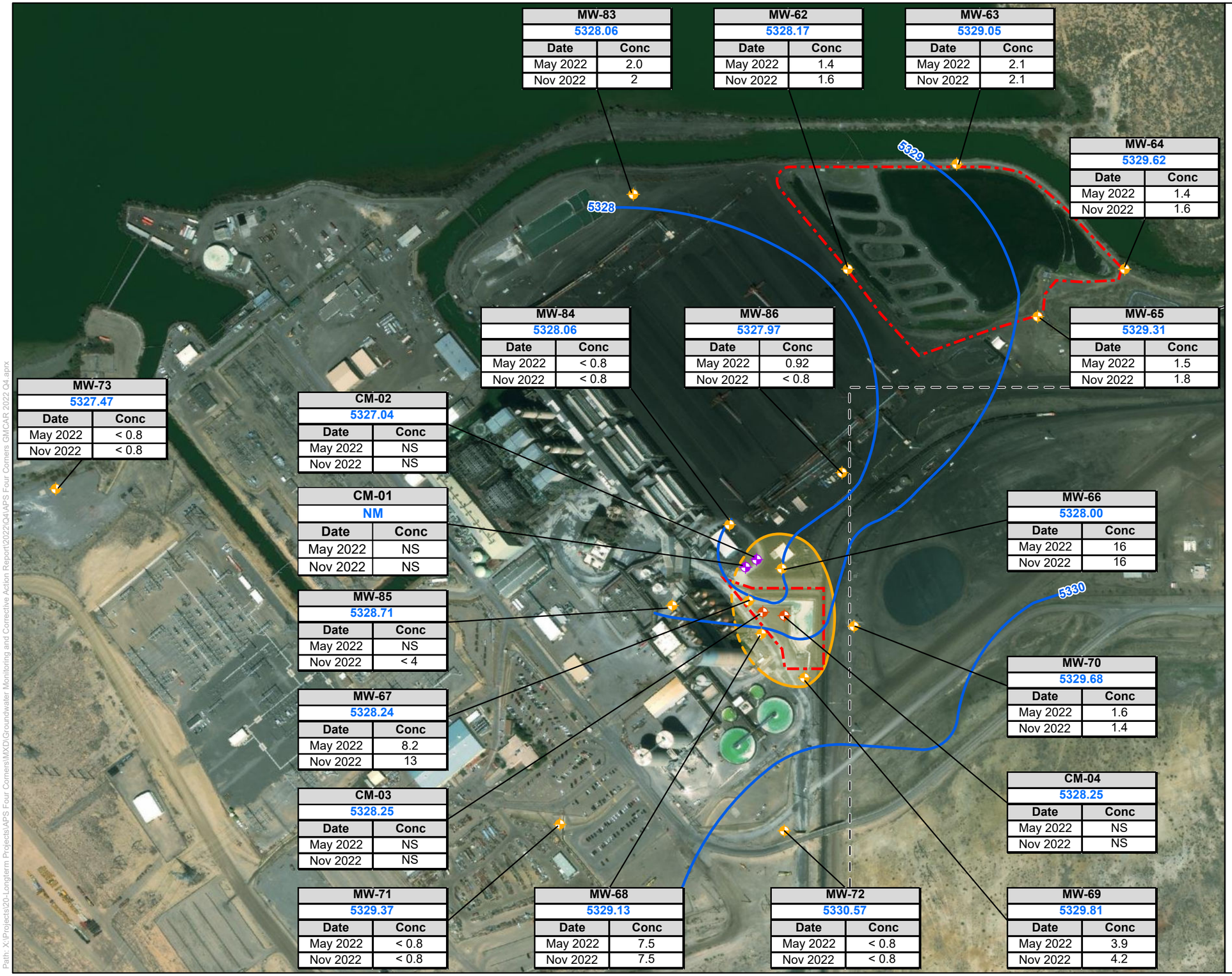
Path: X:\Projects\20-Longterm Projects\APS Four Corners\MXD\Groundwater Monitoring and Corrective Action Report\2022\Q4\APS Four Corners GMCAR 2022 Q4.aprx



MW-83	
5328.06	
Date	Conc
May 2022	2.0
Nov 2022	2

MW-62	
5328.17	
Date	Conc
May 2022	1.4
Nov 2022	1.6

MW-63	
5329.05	
Date	Conc
May 2022	2.1
Nov 2022	2.1

MW-64	
5329.62	
Date	Conc
May 2022	1.4
Nov 2022	1.6

MW-84	
5328.06	
Date	Conc
May 2022	< 0.8
Nov 2022	< 0.8

MW-86	
5327.97	
Date	Conc
May 2022	0.92
Nov 2022	< 0.8

MW-65	
5329.31	
Date	Conc
May 2022	1.5
Nov 2022	1.8

MW-73	
5327.47	
Date	Conc
May 2022	< 0.8
Nov 2022	< 0.8

CM-02	
5327.04	
Date	Conc
May 2022	NS
Nov 2022	NS

CM-01	
NM	
Date	Conc
May 2022	NS
Nov 2022	NS

MW-66	
5328.00	
Date	Conc
May 2022	16
Nov 2022	16

MW-85	
5328.71	
Date	Conc
May 2022	NS
Nov 2022	< 4

MW-70	
5329.68	
Date	Conc
May 2022	1.6
Nov 2022	1.4

MW-67	
5328.24	
Date	Conc
May 2022	8.2
Nov 2022	13

CM-04	
5328.25	
Date	Conc
May 2022	NS
Nov 2022	NS

CM-03	
5328.25	
Date	Conc
May 2022	NS
Nov 2022	NS

MW-71	
5329.37	
Date	Conc
May 2022	< 0.8
Nov 2022	< 0.8

MW-68	
5329.13	
Date	Conc
May 2022	7.5
Nov 2022	7.5

MW-72	
5330.57	
Date	Conc
May 2022	< 0.8
Nov 2022	< 0.8

MW-69	
5329.81	
Date	Conc
May 2022	3.9
Nov 2022	4.2

Legend

- CCR Monitoring Well Location
- Extraction Well Location
- CM Pre-Design Well Location
- CCR Unit Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Four Corners Power Plant Lease Boundary
- Groundwater Elevation Contour (ft amsl) 1-Foot Contour Interval (Dashed Where Inferred)
- FlowDirection

Fluoride Concentration in Groundwater (November 2022)

- 4
- GWPS (4 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

MW-62	Well Identification
5328.17	Groundwater Elevation (ft amsl) November 2022
1.4	Fluoride concentration (mg/L)
NM	Not Measured
NS	Not Sampled
ft amsl	Feet above mean sea level
mg/L	Milligrams per Liter
CCR	Coal Combustion Residuals
FCCP	Four Corners Power Plant
GWPS	Groundwater Protection Standard

0 200 400 800 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 4-5

URS Fluoride Iso-Concentration Map 2022

Job No. 14-2022-2006
PM: MBH
Date: 1/13/2023
Scale: 1" = 400'

wsp

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APPENDIX

A

UPDATED SAMPLING AND ANALYSIS PLAN

Groundwater Sampling and Analysis Program

Coal Combustion Residuals Rule Groundwater Monitoring System Compliance

Four Corners Power Plant
Fruitland, New Mexico
Project No. 14-2022-2006

Prepared for:

Arizona Public Service Company
400 North 5th Street, Phoenix, Arizona 85004

August 3, 2022

Groundwater Sampling and Analysis Program

Coal Combustion Residuals Rule Groundwater Monitoring System Compliance
Four Corners Power Plant, Fruitland, New Mexico
Project No. 14-2022-2006

Prepared for:

Arizona Public Service Company
400 North 5th Street, Phoenix, Arizona 85004

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August 3, 2022

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List of Acronyms and Abbreviations

§	section
ºC	degrees Celsius
amsl	above mean sea level
APS	Arizona Public Service Company
AWQS	Arizona Aquifer Water Quality Standard
BTV(s)	background threshold value(s)
CCR	coal combustion residuals
CCR Unit	CCR landfill and/or surface impoundment
CFR	Code of Federal Regulations
COC	chain of custody
CWTP	Combined Waste Treatment Pond (CWTP)
DFADA	Dry Fly Ash Disposal Area
DO	dissolved oxygen
DTW	depth to water
EDD	electronic data deliverable
EETA	Eurofins Environment Testing America Laboratories
EIM	Environmental Information Management
Four Corners	APS Four Corners Power Plant
BTV	Background threshold values
FD	Field duplicate
FS	Field spike
ft	foot, feet
GWPS(s)	groundwater protection standard(s)
HASP	health and safety plan
ID	identifier
IDW	investigation derived waste
LAI	Lined Ash Impoundment
LDWP	Lined Decant Water Pond
MCL	maximum contaminant level
mg/L	milligrams per liter
mL/min	milliliters per minute
MS	matrix spike
MSD	matrix spike dupe
Multiunit	Multiunit 1 (comprised of the LAI and LDWP)
mV	millivolts
ORP	oxidation-reduction potential
PPE	personal protective equipment
QAPP	quality assurance project plan
QA/QC	quality assurance/quality control
Radiation Safety	Radiation Safety Engineering, Inc.
RWP	Return Water Pond

SAP	sampling and analysis plan
SDAWP	statistical data analysis work plan
Site	Four Corners Power Plant
SOP	standard operating procedure
SSI	statistically significant increase
SSL	statistically significant level
SU	standard units (for pH)
URS	Upper Retention Sump
USEPA	United States Environmental Protection Agency
Wood	Wood Environment & Infrastructure Solutions, Inc

1.0 Introduction

This Sampling and Analysis Plan (SAP) has been prepared by Wood Environment & Infrastructure Solutions, Inc. (Wood) on behalf of Arizona Public Service Company (APS) to document the objectives, methods, and protocols for the Four Corners Power Plant (Four Corners or the Site) groundwater monitoring program. The groundwater monitoring program is in support of compliance with coal combustion residuals (CCR) requirements detailed in 40 Code of Federal Regulations (CFR) Part 257 (herein referred to as the CCR Rule) (Federal Register, 2020). The CCR Rule became effective on October 19, 2015 and established standards for the disposal of CCR in landfills and surface impoundments (CCR Units). This SAP serves as an update to the original SAP prepared for the Site (AECOM, 2015, updated by APS 2018).

1.1 Site Hydrogeology

Four Corners is located in a semi-arid climate within the geologic structural San Juan Basin at an average elevation of approximately 5,340 to 5,360 feet (ft) above mean sea level (amsl). The two primary geologic units that are expected to influence groundwater conditions at the Site are as follows (in descending order from the surface):

Pictured Cliffs Sandstone: The Pictured Cliffs Sandstone, dominant at the surface within the plant area (see Figure 1-2), is a fine- to medium-grained marine sandstone with the lower portions representing a transitional sequence between the formation and the underlying Lewis Shale as indicated by alternating thin beds of very fine-grained sandstone and silty shale. The Pictured Cliffs Sandstone is the uppermost water bearing unit for the plant area and extends from ground surface (between approximately 5,340 to 5,360 ft amsl) to approximately 5,300 ft amsl. Groundwater in this area is strongly influenced by Morgan Lake (at a surface elevation of approximately 5,330 ft amsl) and generally flows northward towards the lake. However, construction and operations of the plant have resulted in disturbed ground conditions and associated impacts are not well understood. The Pictured Cliffs Sandstone serves as the uppermost aquifer in the plant area.

Lewis Shale: The Lewis Shale is a marine shale that contains evaporite deposits and spans the ground surface approximately 1.5 miles west of the Pictured Cliffs Sandstone cliff face. The regional thickness of the Lewis Shale is approximately 500 ft and consists of a weathered subunit overlying a hard, unweathered subunit. The thickness of the Weathered Lewis Shale subunit varies between 11 and 45 ft with an average thickness of 30 ft within the vicinity of the Site and contains thin (1 to 7 ft) fine- to very fine-grained, calcium carbonate-cemented sandstone lenses (Dames & Moore, 1988). In areas overlain by the Pictured Cliffs Sandstone the weathered shale is not as thick. The Weathered Lewis Shale and the hydraulically connected alluvial deposits along Chaco Wash (an ephemeral, north-flowing tributary to the San Juan River, west of the plant and infrastructure, Figure 1-2) are designated as the uppermost water bearing unit in areas where the overlying Pictured Cliffs Sandstone is not present. Groundwater within the Weathered Lewis Shale can exhibit local seasonal fluctuations attributable to interactions between rates of recharge and discharge (Dames & Moore, 1988) from and to Morgan Lake, historical unlined ponds, and Chaco Wash.

There is a third hydrostratigraphic unit (Unweathered Lewis Shale) present that is significantly less permeable with thin periodic fine-grained sandstones, siltstones, and claystones. This unit is a regionally extensive confining unit that forms the base of the uppermost aquifers and results in a perched saturated zone beneath the plant.

The significantly less permeable Unweathered Lewis Shale subunit is very fine-grained to silty and contains periodic siltstone and sandstone lenses (Dames & Moore, 1988). The Unweathered Lewis Shale is a regionally extensive confining unit and forms the base of the uppermost aquifers of the Site.

1.2 Four Corners CCR Units

The plant and associated infrastructure are located approximately 20 miles southwest of the city of Farmington in the Colorado Plateau physiographic province of northwestern New Mexico (Figure 1-1). Plant infrastructure includes four single CCR Units and one CCR multiunit that are monitored under the CCR Rule: the Combined Waste Treatment Pond (CWTP), the Dry Fly Ash Disposal Area (DFADA), the Return Water Pond (RWP), the Upper Retention Sump (URS), and Multiunit 1 (or the Multiunit) comprised of the Lined Ash Impoundment (LAI) and the Lined Decant Water Pond (LDWP). The extent of each CCR Unit is outlined in Figure 1-2.

The CWTP is a 13.4-acre unlined CCR impoundment constructed on the Pictured Cliffs Sandstone adjacent to Morgan Lake, a man-made lake which supplies cooling water to the plant (Figure 1-2). The Pictured Cliffs Sandstone is therefore considered the uppermost aquifer for the CWTP. Groundwater in the Pictured Cliffs Sandstone aquifer under the CWTP is strongly influenced by Morgan Lake. While discharges of CCR to the unit have ceased and closure of the CWTP has been initiated, it is to remain in the monitoring program until full closure requirements are met per the CCR Rule.

The DFADA is a 137.7-acre lined CCR landfill constructed on the Weathered Lewis Shale and localized alluvium. The Lewis Shale is geologically continuous in the area of the Multiunit and DFADA but it is unsaturated in the vicinity of the DFADA. Although locally unsaturated, the Weathered Lewis Shale is the uppermost potential water bearing unit underlying the DFADA and therefore considered the uppermost aquifer for the CCR Unit.

The RWP is a lined CCR Unit approximately 5.1 acres in area and constructed on the Pictured Cliffs Sandstone in 2019. The Pictured Cliffs Sandstone is locally unsaturated beneath the RWP, but as this is the uppermost water bearing unit underlying the URS and CWTP (Figure 1-2) and would become saturated under the RWP if a leak occurred, it is therefore considered the uppermost aquifer for the CCR Unit.

The URS is a former CCR surface impoundment replaced by a tank at the same location in 2018. The former impoundment was the smallest single CCR unit at the Site, approximately 1.1 acres in area, and constructed on the Pictured Cliffs Sandstone. The Pictured Cliffs Sandstone is therefore considered the uppermost aquifer for the URS and is also strongly influenced by Morgan Lake. Closure of the URS was initiated in 2018, however due to fluoride concentrations in groundwater downgradient of the Unit, it is to remain in the monitoring program until full closure requirements are met per the CCR Rule.

The two unlined CCR Units that comprise Multiunit 1, the LAI (126.8 acres in area) and the LDWP (45 acres in area), are both constructed on historical ash facilities that overlie the Weathered Lewis Shale. Near Chaco Wash (Figure 1-2), the Weathered Lewis Shale is interbedded with alluvium and saturated; therefore, the Weathered Lewis Shale/alluvium is the uppermost aquifer for Multiunit 1. While discharges of CCR to Multiunit 1 have ceased and closure has been initiated, it is to remain in the monitoring program until full closure requirements are met per the CCR Rule.

2.0 Groundwater Monitoring System

The groundwater monitoring system utilizes monitoring networks and the groundwater monitoring program to support compliance with the CCR Rule. Descriptions of the networks and the monitoring program are provided in the following sections.

2.1 Groundwater Monitoring Networks

An individual monitoring network has been developed for each CCR Unit. These networks consist of the CCR units themselves, various wells, and applicable seepage intercept systems. An overview of the

monitoring networks in place at Four Corners is shown in Figure 1-2. In accordance with the CCR Rule, the CCR groundwater monitoring networks must be certified by a qualified professional engineer. Certification reports for the Four Corners groundwater monitoring networks include the initial Site design, installation, and certification report prepared by AECOM (2017) and the design, installation, and certification report prepared by Wood (2020a) following the installation of the RWP monitoring network.

2.1.1 Monitoring Wells

The individual monitoring well networks developed for the CWTP (Figure 2-1), URS (Figure 2-1), RWP (Figure 2-2), and DFADA (Figure 2-3), Multiunit 1 (Figure 2-3) each are comprised of at least one background well and three downgradient wells. Background water quality of the uppermost aquifer that has been unaffected by each overlying CCR Unit is intended to be determined by one or more background wells (note that the Multiunit background wells, M-43 and M-74, are only shown in Figure 1-2 due to their distance away from Multiunit 1). The downgradient wells are intended to determine the quality of the water passing through the CCR Unit waste boundary. Table 2-1 identifies the background and downgradient wells for each CCR Unit and presents well construction details. Several additional monitoring wells are included in the well networks to further supplement downgradient water quality data. These supplementary wells are also included in Table 2-1 and Figures 2-1 through 2-3.

2.1.2 Seepage Intercept Systems

Currently, seepage intercept systems are in place downgradient of Multiunit 1 and at the URS. Extraction wells and seepage collections sumps that are part of these systems may also serve as sample points for supplementary water quality data. Extraction wells and sumps that may be sampled are identified in Table 2-1 and shown in Figures 2-1 through 2-3.

2.1.3 CCR Unit Surface Waters

As further supplementary water quality data, the surface waters of a CCR Unit may be sampled. The extent of each CCR Unit at the Site is outlined in Figures 1-2 and 2-1 through 2-3. Other surface waters, such as the Cooling Canal north-adjacent to the CWTP and Morgan Lake (Figure 2-1) may also be sampled.

2.2 Groundwater Monitoring Program

The groundwater monitoring and corrective action process defined in the CCR Rule involves a phased approach supported by a data-driven statistical analysis program documented in the Site *Statistical Data Analysis Work Plan* (SDAWP) (Wood, 2020b). During the initial phase of the monitoring, detection monitoring, more mobile constituents associated with CCR are evaluated via the downgradient monitoring network to determine whether an overlying CCR Unit has impacted the aquifer. Appendix III of the CCR Rule lists the constituents that must be sampled during detection monitoring, the analytical results of which are compared to statistically determined background threshold values (BTVs). All Appendix III constituents and current BTVs per CCR Unit are summarized in Table 2-2 (BTVs are routinely updated; consultation with statistical analyses memorandums is advised for the most up to date BTVs). Detection monitoring sampling is to be conducted on a semiannual basis. As of this SAP update, the CWTP, DFADA, and RWP are the CCR Units in detection monitoring.

If a statistically significant increase (SSI) over an Appendix III constituent BTV is detected in a downgradient monitoring well, and an alternative source to the CCR Unit cannot be demonstrated for the exceedance, then monitoring moves into the second phase of monitoring. The second phase, or assessment monitoring, focuses on constituents listed in Appendix IV of the CCR Rule. Appendix IV constituents are evaluated in comparison to groundwater protection standards (GWPSs). GWPSs, established for Appendix IV

constituents only, are the higher of either the federal Safe Drinking Act Maximum Contaminant Level (MCL), an alternative risk-based GWPS established in the CCR Rule, or the BTV for the CCR Unit. Table 2-2 summarizes Appendix IV constituents and current GWPSs per CCR Unit (GWPSs may be updated during BTV updates if the GWPS is based on the BTV; consultation with statistical analysis memorandums is advised for the most up to date GWPSs). Assessment monitoring sampling will also be conducted semiannually in tandem with detection monitoring. As of this SAP update, no CCR Units at Four Corners are in assessment monitoring.

If a statistically significant level (SSL) of an Appendix IV constituent over a GWPS is determined to be occurring within a downgradient CCR Unit well, and an alternative source to the CCR Unit cannot be demonstrated for the exceedance, then the CCR Unit moves to the corrective action phase of monitoring. Sampling will continue during corrective action to characterize groundwater conditions downgradient of a CCR Unit and to support remedy selection and implementation. Per the CCR Rule, once corrective action has been triggered, sampling must continue until compliance with established GWPSs has been attained in all impacted wells and sustained for three consecutive years. Sampling conducted for corrective action is required to be on a semiannual basis for Appendix III and detected Appendix IV constituents, and on at least an annual basis for all Appendix IV constituents. APS has currently elected to monitor all Appendix III and IV constituents on a semiannual basis concurrent with detection monitoring at the CWTP, DFADA, and RWP. As of this SAP update, the Multiunit and URS are in corrective action.

Additional water quality constituents may also be evaluated for supplementary groundwater characterization during any phase of the groundwater monitoring program. Additional constituents are not limited to, but frequently include those presented in Table 2-2.

3.0 Groundwater Monitoring Procedures

Groundwater monitoring is to be conducted by qualified and trained personnel. The procedures for groundwater level measurements and sample collection, Site-established quality assurance and control (QA/QC), and safety plans are detailed in the remainder of this section (Section 3.0). Examples of field forms to be used for all procedures, including Safety Meeting Report and APS Pre-Job Brief forms, Daily Field Record, Photo Log, Water Level Collection, Water Quality Sampling Instrument Calibration, and sampling record forms, are presented in Appendix A. Standard operating procedures (SOPs) for monitoring events, including Documentation of Field Activities, Field Measurements, Field Sampling, Sample Handling, Equipment Decontamination, and Investigation-Derived Waste Management are included in Appendix B.

3.1 Quality Assurance Project Plan

Groundwater monitoring will be conducted in general accordance with the APS Quality Assurance Project Plan (QAPP), included in Appendix C. The APS QAPP is intended to document baseline requirements for environmental sampling conducted at all APS sites; where conflicting direction between the APS QAPP and this SAP occurs, this SAP takes precedent. For example, while the QAPP identifies Arizona Aquifer Water Quality Standards (AWQSs) as relevant groundwater standards, the BTVs and GWPSs described above (Section 2.2) constitute the applicable regulatory limits for groundwater associated with the CCR Rule.

3.2 Health and Safety Plan

Groundwater monitoring will also be conducted in accordance with the Health and Safety Plan (HASP) established for CCR monitoring program at the Site. The APS Pre-Job Brief form and example Safety Meeting Report form included in Appendix A are to be filled out daily before conducting any monitoring procedures. Personnel will understand the hazards of the work, wear proper personal protective equipment (PPE), and

hold a regular pre-job brief or safety tailgate meeting during the time a Pre-Job Brief form and Safety Meeting Report form are completed.

3.3 Measurement of Groundwater Levels

Prior to any sampling, manual depth to water (DTW) measurements will be collected from designated locations using a decontaminated electronic water level meter. DTW measurements will be collected in as short a time-period as practicable (ideally, in a single day) to avoid temporal and operations-induced variations in the water table. DTW will be measured to the nearest 0.01-ft from the designated measuring point (usually the north side of the top of the inner well casing) and recorded on a Water Level Collection form (Appendix A) at the time of measurement.

3.4 Collection of Samples

Samples will be collected from designated locations following conclusion of DTW measurements. The following procedures are to be utilized for groundwater samples collected from all well types and, as applicable, for grab samples from seepage system waters and surface waters. SOPs for sample collection and handling are included in Appendix B.

3.4.1 Field Instrument Calibration

Field instruments will be calibrated daily prior to conducting any sampling. Calibration will follow manufacturer's recommended procedures with known, unexpired standard solutions as required. Careful monitoring of instrumentation throughout the day should be maintained to assess whether re-calibration is required. Calibration check readings and or re-calibration should be conducted before surface samples are taken – particularly samples collected from the CWTP and surrounding surface waters. All calibration procedures and data, date, and times of calibration will be recorded on a Water Quality Sampling Instrument Calibration form (Appendix A). Back-up field instruments are to be available in the event of instrument malfunction. Maintenance will be performed on all instruments as deemed appropriate by the manufacturer.

3.4.2 Field Parameter Collection

Field parameters include pH, specific conductance, temperature, oxidation-reduction potential [ORP], dissolved oxygen [DO], and turbidity. Field parameters will be monitored and collected during purging and sampling from a well or collected from grab samples, as required, for seepage system and surface water samples. Specific field parameter requirements are detailed below (Section 3.4.3) for each sampling method. The SOP for field measurement collection is included in Appendix B.

3.4.3 Sampling Methods

Well Sampling (Low-flow Sampling) – The primary sampling method to be utilized for groundwater collection from wells will be the low-flow method. Low-flow methods will be in accordance with the United States Environment Protection Agency (USEPA) *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells* (USEPA, 2017). A dedicated submersible pump should be used for each well where possible. A flow through cell should be used to monitor stabilization parameters. Proper decontamination procedures between well locations should be used where a temporary pump set-up or non-dedicated sampling equipment is used (see SOP for decontamination in Appendix B). The pump will be placed at least at the midpoint of the well screen interval (or lower, where necessary, as dictated by DTW). During purging, flow rate and field parameter collection guidelines will be followed as outlined in the *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater*

Samples from Monitoring Wells (USEPA, 2017). At a minimum, the volume of the pump and discharge tubing of the low-flow set-up must be purged before collection of field parameters or samples.

Upon reaching stabilization criteria, groundwater samples may be collected. Stabilization is considered to be achieved when three consecutive readings (at a purge rate of no more than 500 milliliters per minute [mL/min]) are within the following limits:

- 10% for turbidity (for values greater than 5 nephelometric turbidity units [NTU], if three consecutive readings are below 5 NTU consider the values to be stabilized);
- 10% for DO (for values greater than 0.5 milligram per liter [mg/L], if three consecutive readings are below 0.5 mg/L consider the values to be stabilized);
- 3% for specific conductance;
- 3% for temperature;
- ± 0.1 standard units [SU] for pH; and
- ± 10 millivolts [mV] for ORP.

If stabilization criteria are not met, or if low yield conditions in a well result in drawdown that prevents use of the low-flow method, an alternative method such as use of a HydraSleeve™ may be considered; however, this method is not compliant with the CCR Rule and thus should only be considered, with appropriate documentation, if no alternative is available. Low yield wells will be evacuated completely on the first day of the sampling event and sampled after a sufficient recovery volume has been reached to meet sample collection needs. If a well requires an extended recovery period (greater than 24 hours) to accumulate a sufficient amount of groundwater for sample collection, a no-purge sample (e.g., via HydraSleeve™) may be collected. To limit disturbance, as little water as possibly is to be removed from wells. An inadequate water column recovery may result in a skipped sample from the well during a monitoring event.

Samples are to be collected directly from discharge tubing of a low-flow pump set-up or directly from a HydraSleeve™ into the appropriate laboratory-provided containers.

All information related to sample collection as included on sample collection forms (either the Low Flow Sampling Record or Grab Sampling Record form), included in Appendix A, will be recorded upon sampling.

Seep Sampling (Port or Grab Sampling) – Extraction wells equipped with permanent pumps and sumps that are part of seepage systems may be outfitted with a valved port from which a water sample may be directly collected (i.e., a grab sample). At a minimum, one set of field parameters (a turbidity, DO, specific conductance, temperature, pH, and ORP reading) will be collected by analyzing a separate aliquot of the sample collected concurrent with each grab sample.

Grab samples are to be collected directly from the port into the appropriate laboratory-provided containers.

All other necessary information (such as sample date and time) will be recorded at the time of sampling as shown on the Grab Sampling Record form included in Appendix A.

Surface Water Sampling (Grab Sampling) – Samples may also be collected directly from surface waters of CCR Units. Surface water samples will be collected using properly decontaminated or disposable grab containers – preferably with long-reach handles as to avoid sediment near shores. Samples should be collected with as little agitation or disturbance as possible. Composite samples may be collected where CCR Unit surface areas or other surface water areas are sufficiently large. At a minimum, one set of field parameters (a turbidity, DO, specific conductance, temperature, pH, and ORP reading) will be collected by analyzing a separate aliquot of the sample collected from the grab container.

Samples are to be collected directly from the grab containers into the appropriate laboratory-provided containers.

All necessary information will be recorded at the time of sampling as shown on the Grab Sampling Record or Composite Grab Sampling Record forms included in Appendix A.

3.4.4 Purged Water and IDW

Outside of the main plant area, small volumes of purge water associated with well sampling will be disposed of on the ground surface adjacent to the sampled well to infiltrate back into the aquifer from which it came. Unnecessary volume collected with surface water samples will be disposed of at the surface water location of collection. Excess seepage water sample volumes, large purge volumes associated with well sampling, or any volume of water from well sampling within the plant area will be containerized for later disposal at an APS-approved area. All other investigation derived waste (IDW) such as disposable gloves or disposable containers from sampling must also be collected and placed in appropriate, APS-approved waste containers. The SOP for IDW management is included in Appendix B.

3.4.5 Sampling Quality Control

QC samples will be collected to evaluate laboratory precision and effectiveness of reusable field equipment-decontamination. The QC sampling will be in accordance with the APS QAPP (Appendix C), clearly documented on all applicable field forms, and consist of the following:

Duplicate Samples – A field duplicate sample will be collected at a frequency of 10 percent of the total number of samples collected during each monitoring event. Specific locations for the field duplicates will ideally be designated prior to or at the start of a monitoring event. Field duplicates will be collected at the same locations as corresponding primary samples (or parent samples), collected immediately following parent samples, and utilize identical sampling techniques to those used for parent samples. The duplicate samples will be stored, transported, and analyzed identically to parent samples. The duplicate sample containers will be assigned identification in the field per Section 3.4.6 such that they cannot be identified (blind duplicate) as a duplicate by laboratory personnel performing water quality analyses.

MS/MSD Samples – A matrix spike (MS) and matrix spike duplicate (MSD) will be collected at a frequency of 5 percent of the total number of samples collected during each monitoring event. MS and MSD recoveries are evaluated against method requirements and laboratory procedures during data validation. Specific locations for MS and MSD samples will ideally be designated prior to or at the start of a monitoring event. Extra sample volume aliquots as required based on sample location will be collected for the MS and MSD. The MS and MSD samples will be stored and transported identically to primary samples. The MS and MSD aliquots will be assigned identification identical to the primary sample aliquot and marked for MS and MSD analyses on relevant chains of custody (COCs) (example COCs are presented Appendix D).

Temperature Blank Samples – Temperature blanks are to be provided by the laboratory and will accompany each cooler of sample containers. Temperature blanks are to assess the temperature of the samples as stored in a cooler between collection and relinquishment to the laboratory. The temperature of the blanks is to be measured upon receipt of the sample cooler at the laboratory and noted on the applicable chain of custody (COC) record (Appendix D).

Equipment Rinsate Blank Samples – To assess the effectiveness of field equipment decontamination, a minimum of one equipment blank will be collected per equipment item during each monitoring event where the equipment decontamination is required. Equipment blanks will be prepared by pouring or pumping reagent-grade de-ionized water over or through sampling equipment devices after decontamination

procedures have been conducted. The equipment rinsate water will be collected, stored, and transported to the laboratory for the equivalent analysis as parent samples.

Laboratory Split Samples – Laboratory split samples are not required for every monitoring event but may be collected periodically to evaluate the accuracy and precision of the primary laboratory. At locations selected for split sampling, a second set of samples will be collected using methodology identical to primary samples. The split samples will be submitted for equivalent analyses as the primary samples.

3.4.6 Sample Identification Designations and Labeling

All samples, including QC samples, will be given unique identifiers that will be recorded on all applicable field forms (Appendix A). Sample containers will be labeled at a minimum with the sample identifier (ID), sample date, time of sampling, and sampler's initials. Blind sample IDs will be paired to parent sample IDs, recorded in Daily Field Record and applicable sampling forms (Appendix A), and follow naming conventions as outlined below. The APS prescribed naming protocol is as follows:

[Site Code]–[Location ID]–[Sample Date]–[Letter Code (optional)], where

- **Site Code** is the site code given for each site managed by APS (for Four Corners the site code is "FC-CCR"),
- **Location ID** is the location or well that is being sampled (e.g., monitoring well MW-62, identified as MW62), and
- **Sample Date** is sample date in the format of "MMYY" (e.g., 0522 for May, 2022).
- **Letter Code** is an optional identifier to be used only if multiple samples are collected from the same location in the same month. Alphabetical letters starting with 'A' will be used to make each sample collected unique.

Example: FC-CCR-MW62-0522

A similar naming protocol is to be used for all QC samples, as follows:

[Site Code]-[QC Type]##-[Sample Date], where

- **Site Code** and **Sample Date** are the same as above, and
- **QC Type** is the code given for each type of quality control sample type followed by a two-digit sequential number starting with 01 to accommodate multiple quality control sample types. The quality control sample type codes include **FD** (field duplicate), **TB** (trip blank), **FB** (field blank), **AB** (ambient blank), **EB** (equipment blank), **SS** (split sample), and **FS** (field spike).

Example: FC-CCR-EB01-0522 or FC-CCR-SS01-0522

3.4.7 Equipment Decontamination

Temporary submersible pumps and depth to water meter sensors will be decontaminated with a wash solution of water and Liqui-Nox™ (or other laboratory-grade cleaner), rinsed with potable water, and final-rinsed with distilled or deionized water. Disposable tubing will be discarded after use at a well and replaced with new tubing. Sampling personnel will use new, disposable gloves between each sampling location. The SOP for equipment decontamination is included in Appendix B.

3.5 Sample Handling and Control

Handling and control procedures as detailed below, are to be utilized with all sample types collected at the Site. The sample handling SOP is included in Appendix B.

3.5.1 Sample Containerization

All sample containers and required preservation solutions per container are to be prepared and provided by the analytical laboratory. The sample container type, volume, and preservative per sample set collected will be recorded on the appropriate field sampling form (Appendix A). Table 3-1 presents sample container type and volume, preservation methods, and holding time per CCR constituent and respective recommended analytical method. All appropriate sample container information as required by the analytical laboratory will be included on associated COCs (Appendix D). Sample containers will be tightly closed, placed immediately into an iced cooler after collection, kept at approximately 4 ºC, and maintained under custody as such until relinquishment to the laboratory.

3.5.2 Sample Custody

Upon sample collection or at the end of the monitoring event prior to transferring samples offsite, all required sample information will be documented on the COC (Appendix D). Note that as of the date of this SAP update, Eurofins Environment Testing America Laboratories (EETA) evaluates samples for all constituents other than radium, while Radiation Safety Engineering Inc. (Radiation Safety) performs radium analyses. The COC examples in Appendix D include a copy for EETA and a copy for Radiation Safety. Once collected, samples are to remain in the custody of the sampler(s) or other authorized personnel until relinquishment to the laboratory. During any required transport or shipment, the COC is to be placed in a resealable plastic bag inside the associated sample cooler to the laboratory. Signed and dated custody seals are to be placed on coolers prior to shipping if a third-party shipper is used. Upon receipt of the coolers at the laboratory, the custody seal will be broken, and conditions of the samples will be recorded by the laboratory custodian on the accompanying COC.

Upon relinquishment of the samples to the laboratory, the laboratory custodian will complete the COC record. Required temperature blank readings and notable conditions of each sample container will be noted.

3.5.3 Sample Packaging and Shipping

Any shipment of samples to the laboratory for analysis by a third-party shipper will be trackable and by overnight delivery. Sample containers are to be placed in a plastic bag in a sealed, insulated cooler with a sufficient amount of ice to ensure samples will remain chilled throughout shipment. If glass sample containers are used, they will be separated in the cooler by shock-absorbent packaging material to prevent breakage. As outlined above, shipments will be accompanied by a COC, which will be sealed in plastic bag inside each cooler.

3.6 Laboratory Analysis

Samples are to be relinquished to laboratories certified by the State of Arizona and capable of meeting water quality analysis requirements. Laboratory analytical evaluations are the be performed using USEPA approved methods. Currently required analytical methods and laboratory reporting limits per CCR constituents are summarized in Table 3-2. Laboratory reports will be provided as Level II data deliverables and include all documentation and information in accordance with the APS QAPP (Appendix C). Laboratory reports should document that laboratory QA/QC procedures as specified in the APS QAPP were followed and that all performance criteria were met, including, sampling holding times, MS and MSD recoveries, and laboratory method blank analyses. Laboratory reports should also include a copy of the completed COC and a record of sample-tracking. Sample-tracking records will show dates of sample collection and sample analysis for each sample. Laboratories will also enter all analytical data into an electronic data deliverable (EDD) submission format in accordance with the APS Global EDD (Appendix E) for Locus Technologies'

Environmental Information Management (EIM) database. The EDDs should be complete, accurate, and correspond exactly with data recorded in original laboratory reports.

4.0 Data Evaluation and Reporting

All data and analytical results will be validated and evaluated in accordance with the CCR Rule and APS QAPP, provided in Appendix C. The data validation, evaluation and reporting requirements are detailed below.

4.1 Data Validation

Upon receipt of laboratory deliverables, water quality data will be validated by qualified personnel. Validation is to verify that all internal performance standards and measures established by the laboratory have been achieved and to evaluate the reliability and defensibility of the analytical data. Questions and reanalysis requirements arising during the validation process will be addressed to the laboratory. Once validated, sample results will be incorporated into the Site water quality database.

4.2 Data Evaluation and Record Keeping

Data will be kept indefinitely in the Site water quality database and exported as necessary for all reporting requirements. Reporting documents will be kept indefinitely in the appropriate operating record(s).

4.2.1 Groundwater Conditions

The CCR Rule requires utilization of collected data to evaluate direction and rate of groundwater flow during each monitoring event. A water level contour map will be prepared following a monitoring event for each of the aquifers of interest to include in reporting as described in Section 4.3. The water level data and contour maps will be reviewed for consistency with previous data and maps. Unless significant water level changes are indicated, the water level data will be used to identify direction of groundwater flow and in calculation of the magnitude of the hydraulic gradient in the vicinity of each CCR Unit. Groundwater velocity should be estimated utilizing hydraulic conductivity values available from applicable aquifer testing and appropriate literature sources.

4.2.2 Statistical Analysis

Groundwater quality analytical data for CCR wells will be evaluated following each monitoring event to establish updated BTVs as necessary, potential exceedances of BTVS or GWPSs, and overall water quality trends. The Site SDAWP details the scope and implementation of statistical criteria and procedures for statistical evaluations (Wood, 2020b).

4.3 Reporting

The original well network certification report for Four Corners was completed September 18, 2017 (AECOM, 2017). The report certified, per the CCR Rule, that the monitoring network was designed and constructed to meet all requirements considering hydrogeologic settings, site history, spacing and orientation of each CCR Unit, engineering design of each Unit, basis for well installation, and justification for the location and number of monitoring wells as defined in the Rule. Additional wells and updates to monitoring systems should continue to be certified as required in the Rule, such as the certification report for the RWP (Wood, 2020a). This SAP may be further amended based on future sampling and monitoring system updates.

In accordance with the CCR Rule, annual reporting requirements for the calendar year are to be completed by January 31 of the subsequent year. The Rule requires, at a minimum, that the annual groundwater monitoring report contain the following information, to the extent available:

"(1) A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;

(2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;

(3) In addition to all the monitoring data obtained under section (§) 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

(4) A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and

(5) Other information required to be included in the annual report as specified in § 257.90 through 257.98."

5.0 References

AECOM, 2015. *Groundwater Sampling and Analysis Plan*, Coal Combustion Residual (CCR) Groundwater Monitoring, Four Corners Power Plant Arizona Public Service, Farmington, New Mexico. December, 2015. Revised January 2018.

AECOM, 2017. *CCR Monitoring Well Network Report and Certification*, Four Corners Power Plant, Fruitland, New Mexico. AECOM Job No. 60531071. September 18, 2017.

Dames & Moore, 1988. *Final Report on Hydrogeology (Volume I) for Arizona Public Service Four Corners Generating Station*. D&M Job No. 02353-083-33. March 1988.

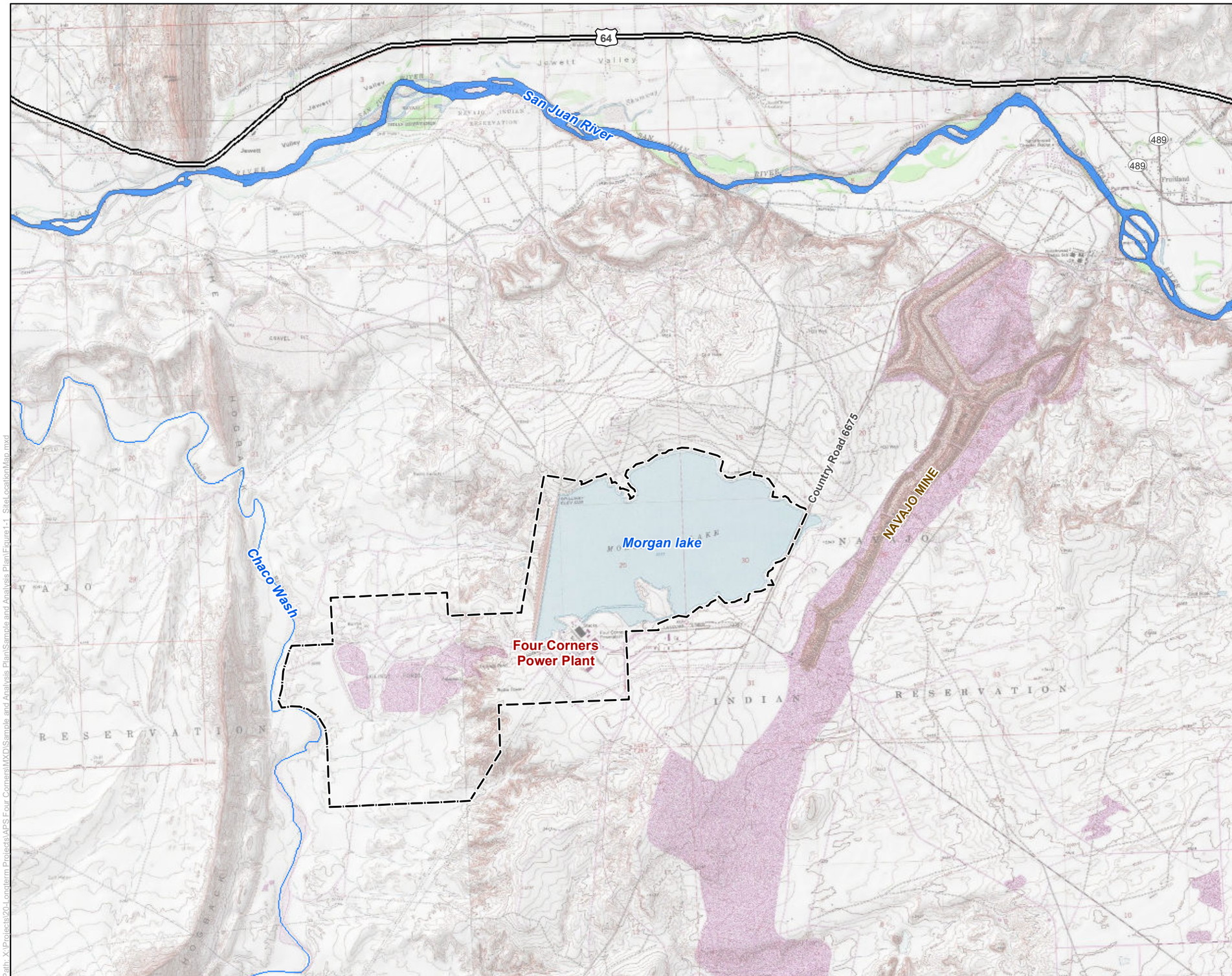
Federal Register, 2020. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities*; Final Rule promulgated at 80 FR 21468 on April 17, 2015 with amendments issued through November 12, 2020.

United States Environmental Protection Agency (USEPA), 2017. *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells*. EQASOP-GW4, Revised September 19, 2017.

Wood, 2020a. *Groundwater Monitoring Network Certification Report for the Return Water Pond*. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance. Four Corners Power Plant, Fruitland, New Mexico. Report dated June 5, 2020.

Wood, 2020b. *Statistical Data Analysis Work Plan*. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance. Four Corners Power Plant, Fruitland, New Mexico. Report dated June 10, 2020.

Figures



Area of Detail

Legend

Four Corners Power Plant Lease Boundary

0 0.4 0.8 Miles

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 1-1

Site Location Map

Job No.	14-2022-2006
PM:	MBH
Date:	4/25/2022
Scale:	1"= 0.8 miles

wood.

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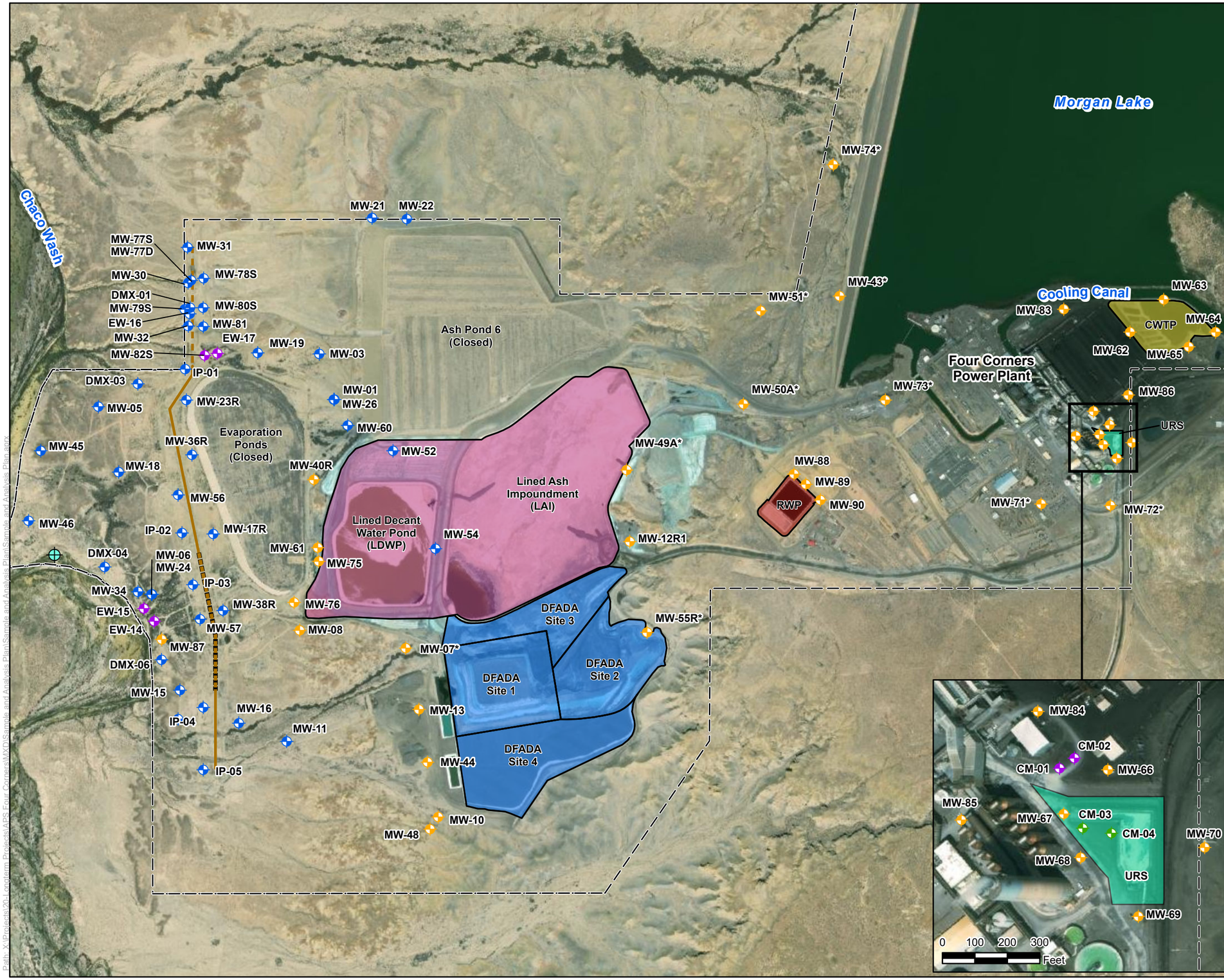

Legend

- CCR Monitoring Well Location
- Extraction Well
- Supplementary Site Monitoring Well Location
- Extraction Well not Currently Connected to Seepage Intercept System
- Chaco Wash Stream Monitoring Station (Approximate Location)
- FCPP Lease Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone

CCR Units

- Multiunit 1(LAI and LDWP)
- Dry Fly Ash Disposal Area (DFADA)
- Combined Waste Treatment Pond (CWTP)
- Upper Retention Sump (URS)
- Return Water Pond (RWP)

Notes and Abbreviations:

MW-48	Well Identification
*	Background well
CCR	Coal Combustion Residuals
CWTP	Combined Waste Treatment Pond
DFADA	Dry Fly Ash Disposal Area
FCPP	Four Corners Power Plant
LAI	Lined Ash Impoundment
RWP	Return Water Pond
URS	Upper Retention Sump

0 650 1,300
Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 1-2

CCR Units and Groundwater Monitoring System Summary Map

Job No.	14-2022-2006
PM:	MBH
Date:	8/4/2022
Scale:	1" = 1300'

wood.

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Path: X:\Projects\20-Longterm Projects\APS Four Corners\MXD\Sample and Analysis Plan\Sample and Analysis Plan\Sample and Analysis Plan.aprx

Legend

- CCR Monitoring Well Location
- Extraction Well
- Extraction Well Not Currently Connected to Seepage Intercept System
- FCPP Lease Boundary

CCR Units

- Combined Waste Treatment Pond (CWTP)
- Upper Retention Sump (URS)

Notes and Abbreviations:

MW-84	Well Identification
*	Background well for the CWTP, URS, and the RWP
CCR	Coal Combustion Residuals
CWTP	Combined Waste Treatment Pond
FCPP	Four Corners Power Plant
RWP	Return Water Pond
URS	Upper Retention Sump

0 375 750 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE **2-1**

CWTP and URS Monitoring System Summaries

Job No.	14-2022-2006
PM:	MBH
Date:	4/27/2022
Scale:	1" = 375'

wood.

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Legend

CCR Monitoring Well Location

FCPP Lease Boundary

CCR Units

Upper Retention Sump (URS)

Return Water Pond (RWP)

Notes and Abbreviations:

MW-88	Well Identification
*	Background well for the CWTP, URS, and the RWP
CCR	Coal Combustion Residuals
CWTP	Combined Waste Treatment Pond
FCPP	Four Corners Power Plant
RWP	Return Water Pond
URS	Upper Retention Sump

0 375 750 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE **2-2**

RWP Monitoring System Summary

Job No.	14-2022-2006
PM:	MBH
Date:	4/27/2022
Scale:	1" = 375'

wood.

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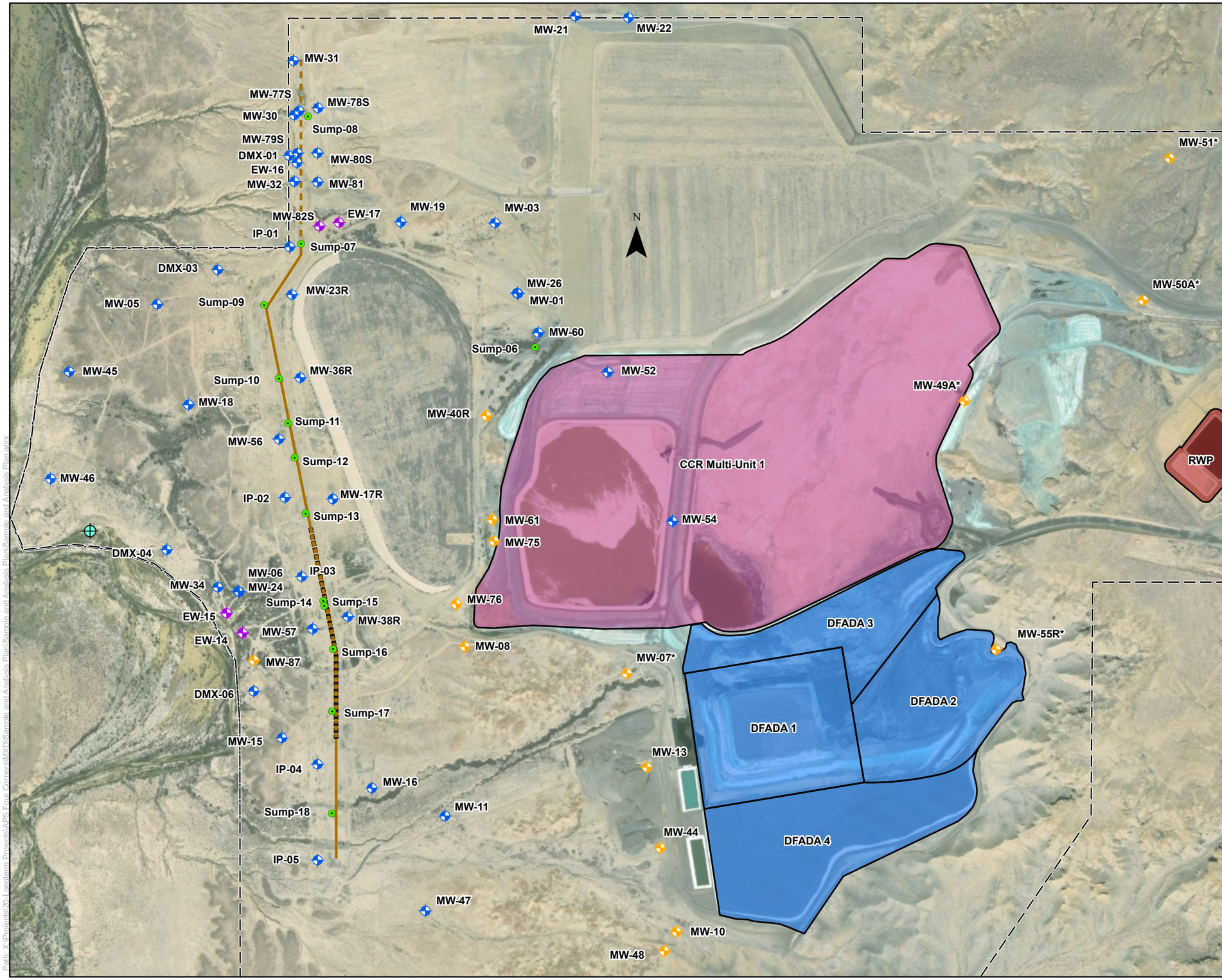

Legend

- CCR Monitoring Well Location
- Extraction Well Location
- Supplementary Site Monitoring Well Location
- Chaco Wash Stream Monitoring Station (Approximate Location)
- Sump Location
- FCPP Lease Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Multiunit 1(LAI and LDWP)
- Dry Fly Ash Disposal Area (DFADA)
- Return Water Pond (RWP)

Notes and Abbreviations:

MW-51	Well Identification
*	Background well
CCR	Coal Combustion Residuals
CWTP	Combined Waste Treatment Pond
DFADA	Dry Fly Ash Disposal Area
FCPP	Four Corners Power Plant
RWP	Return Water Pond
URS	Upper Retention Sump

MW-74 and MW-43 locations are shown on Figure 1-2

0 850 1,700 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE **2-3**

Multiunit 1, DFADA, and Supplementary Monitoring System Summary

Job No.	14-2022-2006
PM:	MBH
Date:	7/28/2022
Scale:	1" = 850'

wood.

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Tables

Table 2-1
Four Corners CCR Sampling Locations

Sample Location	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
MW-12R1	DFADA	Background	Lewis Shale	4/10/2018	40	5270.12	5268.23	22	32	10	5,246.20	5,236.20	5,228.23
MW-55R	DFADA	Background	Lewis Shale	9/13/2015	95	5243.96	5241.36	73	93	20	5,168.46	5,148.46	5,146.36
MW-10	DFADA	Downgradient	Lewis Shale	12/3/1987	35	5150.71	5149.65	13	33	20	5,136.65	5,116.65	5,114.65
MW-13	DFADA	Downgradient	Lewis Shale	8/31/1987	60	5150.75	5149.52	35	55	20	5,114.62	5,094.62	5,089.52
MW-44	DFADA	Downgradient	Lewis Shale	3/28/2012	40	5146.89	5145.15	14	24	10	5,131.65	5,121.65	5,105.15
MW-47	DFADA	Supplementary	Lewis Shale	NA	36	5109.96	5107.39	21	36	15	5,086.39	5,071.39	5,071.39
MW-48	DFADA	Downgradient	Lewis Shale	5/14/2013	60	5165.96	5163.43	35	60	25	5,128.43	5,103.43	5,103.43
MW-11	DFADA	Supplementary	Lewis Shale	3/13/1987	49.9	5111.96	5110.48	30	50	20	5,080.58	5,060.58	5,060.58
MW-43	Multiunit 1	Background	Lewis Shale	3/24/2012	60	5271.58	5269.42	16	26	10	5,253.42	5,243.42	5,209.42
MW-49A	Multiunit 1	Background	Lewis Shale	5/18/2013	68	5,288.62[b]	5,285.29[b]	50	65	15	5,231.38	5,216.38	5,213.38
MW-50A	Multiunit 1	Background	Lewis Shale	7/5/2013	63	5335.67	5333.20	28.0	43	15	5,305.20	5,290.20	5,270.20
MW-51	Multiunit 1	Background	Lewis Shale	4/28/2013	80	5288.14	5285.14	20	30	10	5,265.14	5,255.14	5,205.14
MW-74	Multiunit 1	Background	Lewis Shale	1/18/2017	40	5219.09	5216.70	8	18	10	5,208.60	5,198.60	5,176.70
MW-07	Multiunit 1	Downgradient	Lewis Shale	3/11/1987[a]	60	5149.32	5148.29	15	35	20	5,133.59	5,113.59	5,088.29
MW-08	Multiunit 1	Downgradient	Lewis Shale	3/11/1987[a]	74	5122.56	5120.85	27.7	47.7	20	5,093.15	5,073.15	5,046.85
MW-40R	Multiunit 1	Downgradient	Lewis Shale	9/17/2015	25	5137.43	5134.83	14.3	24.3	10	5,120.53	5,110.53	5,109.83
MW-61	Multiunit 1	Downgradient	Lewis Shale	9/16/2015	35	5129.19	5126.59	24.2	34.2	10	5,102.39	5,092.39	5,091.59
MW-75	Multiunit 1	Downgradient	Lewis Shale	3/15/2017	41	5126.80	5124.80	29.0	39.0	10	5,095.80	5,085.80	5,083.80
MW-76	Multiunit 1	Downgradient	Lewis Shale	3/16/2017	33	5116.23	5114.30	11.8	26.8	15	5,102.50	5,087.50	5,081.30
MW-87	Multiunit 1	Downgradient	Lewis Shale	11/28/2018	50	5076.53	5074.29	15.0	45.0	30	5,059.29	5,029.29	5,024.29
DMX-03	Multiunit 1	Supplementary	Lewis Shale	4/14/1992	38	5085.50	5084.85	18.0	38.0	20	5,066.85	5,046.85	5,046.85
DMX-04	Multiunit 1	Supplementary	Lewis Shale	4/15/1992	51	5073.00	5072.11	31.0	51.0	20	5,041.11	5,021.11	5,021.11
DMX-06	Multiunit 1	Supplementary	Lewis Shale	4/16/1992	35	5077.40	5076.42	15.0	35.0	20	5,061.42	5,041.42	5,041.42
MW-05	Multiunit 1	Supplementary	Lewis Shale	3/12/1987	49.1	5088.50	5087.31	29.1	49.1	20	5,058.21	5,038.21	5,038.21
MW-06	Multiunit 1	Supplementary	Lewis Shale	3/12/1987	48.8	5082.71	5080.19	28.8	48.8	20	5051.39	5031.39	5031.39
MW-15	Multiunit 1	Supplementary	Lewis Shale	9/1/1987	52.7	5093.93	5092.28	22.2	52.2	30	5070.08	5040.08	5039.58
MW-16	Multiunit 1	Supplementary	Lewis Shale	9/2/1987	54.8	5101.32	5100.42	35.5	54.8	19	5064.92	5045.62	5045.62
MW-17R	Multiunit 1	Supplementary	Lewis Shale	12/12/2013	32	5093.09	5090.43	16.5	31.5	15	5,073.93	5,058.93	5,058.43
MW-18	Multiunit 1	Supplementary	Lewis Shale	9/3/1987	55	5089.10	5088.06	25.5	55.0	30	5,062.56	5,033.06	5,033.06
MW-23R	Multiunit 1	Supplementary	Lewis Shale	12/6/2013	41.5	5101.53	5099.08	21.0	41.0	20	5,078.08	5,058.08	5,057.58
MW-24	Multiunit 1	Supplementary	Lewis Shale	9/5/1987	69.7	5081.65	5080.41	59.7	69.7	10	5020.71	5010.71	5010.71
MW-34	Multiunit 1	Supplementary	Lewis Shale	6/9/2010	49	5078.33	5077.34	24	49	25	5053.34	5028.34	5028.34
MW-36R	Multiunit 1	Supplementary	Lewis Shale	12/12/2013	34	5093.33	5090.76	13.5	33.5	20	5077.26	5057.26	5056.76
MW-38R	Multiunit 1	Supplementary	Lewis Shale	12/13/2013	39	5094.12	5091.41	13.5	38.5	25	5,077.91	5,052.91	5,052.41
MW-45	Multiunit 1	Supplementary	Lewis Shale	5/19/2013	39	5089.56	5087.13	24.000	39.000	15.000	5063.130	5048.130	5048.130
MW-46	Multiunit 1	Supplementary	Lewis Shale	4/26/2013	26	5064.30	5061.91	16	26	10	5,045.91	5,035.91	5,035.91
MW-52	Multiunit 1	Supplementary	Lewis Shale	5/10/2013	82	5210.41	5208.06	67	82	15	5,141.06	5,126.06	5,126.06
MW-54	Multiunit 1	Supplementary	Lewis Shale	5/20/2013	91	5217.82	5218.38	76	91	15	5,142.38	5,127.38	5,127.38
MW-56	Multiunit 1	Supplementary	Lewis Shale	12/4/2013	37	5091.49	5089.14	26	36	10	5,063.14	5,053.14	5,052.64
MW-57	Multiunit 1	Supplementary	Lewis Shale	12/8/2013	43	5088.30	5085.70	22	42	20	5,063.70	5,043.70	5,043.20
MW-60	Multiunit 1	Supplementary	Lewis Shale	9/16/2015	25	5144.10	5141.50	14	24	10	5,127.16	5,117.16	5,116.50
EW-14	Multiunit 1	Supplementary	Lewis Shale	10/26/2010	48	5079.65	5078.85	18	48	30	5,060.85	5,030.85	5,030.65
EW-15	Multiunit 1	Supplementary	Lewis Shale	10/26/2010	50	5077.73	5076.82	19	49	30	5,057.82	5,027.82	5,027.20
EW-16	Multiunit 1	Supplementary	Lewis Shale	10/6/2020	50	5086.16	5084.17	20	40	20	5,064.17	5,044.17	5,034.17
EW-17	Multiunit 1	Extraction	Lewis Shale	10/8/2020	50	5097.55	5095.73	20	40	20	5,075.73	5,055.73	5,045.73

Table 2-1
Four Corners CCR Sampling Locations

Sample Location	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
MW-62	CWTP	Downgradient	Pictured Cliffs Sandstone	9/28/2015	20	5341.87	5339.37	10	20	10	5,329.37	5,319.37	5,319.37
MW-63	CWTP	Downgradient	Pictured Cliffs Sandstone	9/25/2015	20	5337.02	5337.02	9	19	10	5,328.02	5,318.02	5,317.02
MW-64	CWTP	Downgradient	Pictured Cliffs Sandstone	9/26/2015	25	5337.66	5337.66	10	20	10	5,327.66	5,317.66	5,312.66
MW-65	CWTP	Downgradient	Pictured Cliffs Sandstone	9/27/2015	20	5339.74	5337.24	8	18	10	5,329.24	5,319.24	5,317.24
MW-66	URS	Downgradient	Pictured Cliffs Sandstone	9/27/2015	33	5344.69	5344.70	15	25	10	5,329.70	5,319.70	5,311.70
MW-67	URS	Downgradient	Pictured Cliffs Sandstone	11/9/2015	31.0	5,352.76[(b)]	5,353.80[(b)]	19.6	29.6	10	5,334.42	5,324.42	5,323.02
MW-68	URS	Downgradient	Pictured Cliffs Sandstone	10/9/2015	30	5353.58	5353.95	19	29	10	5,334.95	5,324.95	5,323.95
MW-69	URS	Downgradient	Pictured Cliffs Sandstone	9/9/2015	35.0	5357.66	5355.26	24.3	34.3	10	5,330.96	5,320.96	5,320.26
MW-70	URS	Downgradient	Pictured Cliffs Sandstone	9/30/2015	53.0	5371.12	5368.62	40.0	50.0	10	5,328.62	5,318.62	5,315.62
MW-83	URS	Downgradient	Pictured Cliffs Sandstone	11/29/2018	35.0	5343.15	5341.51	14.0	29.0	15	5,327.51	5,312.51	5,306.51
MW-84	URS	Downgradient	Pictured Cliffs Sandstone	11/18/2018	35.0	5338.23	5339.34	10.0	30.0	20	5,329.34	5,309.34	5,304.34
MW-85	URS	Downgradient	Pictured Cliffs Sandstone	11/18/2018	35.0	5352.78	5353.69	15.0	30.0	15	5,338.69	5,323.69	5,318.69
MW-86	URS	Downgradient	Pictured Cliffs Sandstone	11/17/2018	35	5338.76	5338.74	10	30	20	5,328.74	5,308.74	5,303.74
CM-01	URS	Extraction	Pictured Cliffs Sandstone	12/13/2019	37	5353.42	5351.19	20	30	10	5,331.19	5,321.19	5,314.19
CM-02	URS	Extraction	Pictured Cliffs Sandstone	12/13/2019	37	5348.50	5346.54	20	30	10	5,326.54	5,316.54	5,309.54
CM-03	URS	Supplementary	Pictured Cliffs Sandstone	12/12/2019	37	5354.85	5352.32	20	30	10	5,332.32	5,322.32	5,315.32
CM-04	URS	Supplementary	Pictured Cliffs Sandstone	12/12/2019	36	5353.94	5351.81	20	30	10	5,331.81	5,321.81	5,315.81
MW-71	URS/CWTP/RWP	Background	Pictured Cliffs Sandstone	3/1/2016	50	5362.91	5363.62	23	43	20	5,341.12	5,321.12	5,313.62
MW-72	URS/CWTP/RWP	Background	Pictured Cliffs Sandstone	2/3/2016	61	5381.62	5379.09	51	61	10	5,328.39	5,318.39	5,318.09
MW-73	URS/CWTP/RWP	Background	Pictured Cliffs Sandstone	1/18/2017	45	5353.95	5351.90	29	44	15	5,323.00	5,308.00	5,306.90
MW-88	RWP	Downgradient	Pictured Cliffs Sandstone	12/6/2019	31	5365.25	5362.71	20	30	10	5,342.71	5,332.71	5,331.71
MW-89	RWP	Downgradient	Pictured Cliffs Sandstone	12/6/2019	35	5370.21	5367.51	24	34	10	5,343.51	5,333.51	5,332.51
MW-90	RWP	Downgradient	Pictured Cliffs Sandstone	12/7/2019	40	5374.08	5372.93	29	39	10	5,343.93	5,333.93	5,332.93
DMX-01	Other Area(s)	Supplementary	Lewis Shale	4/15/1992	39	5098.02	5097.49	19	39	20	5,078.49	5,058.49	5,058.49
IP-01	Other Area(s)	Supplementary	Lewis Shale	12/3/2013	39	5101.81	5099.39	14	39	20	5,085.89	5,060.89	5,060.89
IP-02	Other Area(s)	Supplementary	Lewis Shale	NA	28	5090.79	5088.27	17	27	10	5,071.27	5,061.27	5,060.77
IP-03	Other Area(s)	Supplementary	Lewis Shale	NA	35	5091.08	5088.68	24	34	10	5,064.68	5,054.68	5,054.18
IP-04	Other Area(s)	Supplementary	Lewis Shale	NA	33	5095.92	5093.46	22	32	10	5,071.46	5,061.46	5,060.96
IP-05	Other Area(s)	Supplementary	Lewis Shale	NA	41.0	5094.43	5091.88	21	41	20	5,071.38	5,051.38	5,050.88
MW-01	Other Area(s)	Supplementary	Lewis Shale	9/6/1987	22	5140.43	5138.48	12	22	10	5,126.88	5,116.88	5,116.88
MW-03	Other Area(s)	Supplementary	Lewis Shale	3/13/1987	44	5126.73	5125.52	14.25	44.25	30	5,111.27	5,081.27	5,081.27
MW-19	Other Area(s)	Supplementary	Lewis Shale	9/3/1987	50	5127.40	5126.34	29.2	49.7	21	5,097.14	5,076.64	5,076.64
MW-21	Other Area(s)	Supplementary	Lewis Shale	9/4/1987	30	5155.04	5154.47	10.6	30	19	5,143.87	5,124.47	5,124.47
MW-22	Other Area(s)	Supplementary	Lewis Shale	9/4/1987	30	5156.51	5156.30	10.4	30.4	20	5,145.90	5,125.90	5,125.90
MW-26	Other Area(s)	Supplementary	Lewis Shale	9/6/1987	51	5139.26	5138.36	40.5	50.5	10	5,097.86	5,087.86	5,087.86
MW-30	Other Area(s)	Supplementary	Lewis Shale	6/7/2010	23	5091.67	5092.06	13	23	10	5,079.06	5,069.06	5,069.06
MW-31	Other Area(s)	Supplementary	Lewis Shale	6/7/2010	24	5092.59	5089.96	14	24	10	5,075.96	5,065.96	5,065.96
MW-32	Other Area(s)	Supplementary	Lewis Shale	6/7/2010	20	5087.65	5084.94	10	20	10	5,074.94	5,064.94	5,064.94
MW-77S	Other Area(s)	Supplementary	Lewis Shale	11/8/2018	80	5094.94	5092.35	24	44	20	5,068.35	5,048.35	5,012.35
MW-78S	Other Area(s)	Supplementary	Lewis Shale	11/13/2018	80	5088.79	5086.51	24	44	20	5,062.51	5,042.51	5,006.51
MW-79S	Other Area(s)	Supplementary	Lewis Shale	11/20/2018	58	5086.90	5084.35	16	36	20	5,068.35	5,048.35	5,026.35
MW-80S	Other Area(s)	Supplementary	Lewis Shale	11/16/2018	81	5086.80	5084.29	35	55	20	5,049.29	5,029.29	5,003.29
MW-81	Other Area(s)	Supplementary	Lewis Shale	11/26/2018	36	5086.41	5084.07	13	33	20	5,071.07	5,051.07	5,048.07
MW-82S	Other Area(s)	Supplementary	Lewis Shale	11/27/2018	65	5093.37	5091.02	17	37	20	5,074.02	5,054.02	5,026.02

Table 2-1
Four Corners CCR Sampling Locations

Sample Location	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
Sump 1	Other Area(s)	NA											
Sump 2	Other Area(s)	NA											
Sump 3	Other Area(s)	NA											
Sump 7	Other Area(s)	NA											
Sump 8	Other Area(s)	NA											
Sump 9	Other Area(s)	NA											
Sump 10	Other Area(s)	NA											
Sump 11	Other Area(s)	NA											
Sump 12	Other Area(s)	NA											
Sump 13	Other Area(s)	NA											
Sump 14	Other Area(s)	NA											
Sump 15	Other Area(s)	NA											
Sump 16	Other Area(s)	NA											
Sump 17	Other Area(s)	NA											
Sump 18	Other Area(s)	NA											

Source:
Source of presented information is *AECOM, 2017* and *Sakura Engineering & Surveying, 2017, 2019, and 2020* .
Vertical datum is NAVD 88.

Notes and Abbreviations:
[(a)] - Estimated
[(b)] - New surveyed elevation after wellhead modifications
AMSL - Above mean sea level (Vertical datum is NAVD 88)
bgs - below ground surface
CCR - Coal combustion residuals
CWTP - Combined Waste Treatment Pond
DFADA - Dry Fly Ash Disposal Area
ft - feet
NA - Not Available
RWP - Return Water Pond
URS - Upper Retention Sump

Table 2-2
CCR Constituent BTVs and GWPSs for Four Corners CCR Units

		CWTP		URS				Multiunit 1				DFADA		RWP	
	Constituent	**BTV [mg/L]**	**Units**	**BTV [mg/L]**	**Units**	**GWPS [mg/L]**	**Units**	**BTV [mg/L]**	**Units**	**GWPS [mg/L]**	**Units**	**BTV [mg/L]**	**Units**	**BTV [mg/L]**	**Units**
Appendix III Constituents	Boron	2.0 (MW-62,MW-63) 0.73 (MW-64,MW-65)	mg/L	1.9	mg/L	N/A		1.3	mg/L	N/A		N/A		N/A	
	Calcium	536 (MW-62,MW-63) 486 (MW-64,MW-65)	mg/L	540	mg/L			740	mg/L						
	Chloride	631	mg/L	710	mg/L			5,700	mg/L						
	Fluoride	1.8 (MW-62) 2.3 (MW-63) 1.6 (MW-64) 2.1 (MW-65)	mg/L	>RL	mg/L			0.8	mg/L						
	pH	6.50 - 6.90 (MW-62,MW-63) 7.23 - 7.66 (MW-64) 7.00 - 7.44 (MW-65)	SU	<LPL or >UPL	SU			7.4	SU						
	Sulfate	13,000	mg/L	13,000	mg/L			5,100	mg/L						
	TDS	20,000	mg/L	20,000	mg/L			15,000	mg/L						
Appendix IV Constituents	Antimony	N/A		0.01	mg/L	0.01	mg/L	0.01	mg/L	0.01	mg/L	N/A		N/A	
	Arsenic			0.013	mg/L	0.013	mg/L	0.0086	mg/L	0.01	mg/L				
	Barium			0.05	mg/L	2	mg/L	0.04	mg/L	2	mg/L				
	Beryllium			0.001	mg/L	0.004	mg/L	0.001	mg/L	0.004	mg/L				
	Cadmium			0.001	mg/L	0.005	mg/L	0.002	mg/L	0.005	mg/L				
	Chromium			0.01	mg/L	0.1	mg/L	0.02	mg/L	0.1	mg/L				
	Cobalt			0.016	mg/L	0.016	mg/L	0.01	mg/L	0.01	mg/L				
	Fluoride			4	mg/L	4	mg/L	5	mg/L	5	mg/L				
	Lead			0.005	mg/L	0.015	mg/L	0.01	mg/L	0.015	mg/L				
	Lithium			0.8	mg/L	0.8	mg/L	1.8	mg/L	1.8	mg/L				
	Mercury			0.0002	mg/L	0.002	mg/L	0.0002	mg/L	0.002	mg/L				
	Molybdenum			0.011	mg/L	0.1	mg/L	0.12	mg/L	0.1	mg/L				
	Selenium			0.45	mg/L	0.45	mg/L	0.092	mg/L	0.092	mg/L				
	Thallium			0.0014	mg/L	0.002	mg/L	0.017	mg/L	0.017	mg/L				
	Combined Radium			5.4	pCi/L	5.4	pCi/L	4.4	pCi/L	5	pCi/L				
Additional Constituents	Iron	N/A													
	Manganese														
	Potassium														
	Magnesium														
	Sodium														
	Total Organic Carbon														
	Dissolved Organic Carbon														
	Ammonia														
	Nitrate Nitrite as N														
	Alkalinity as CaCO3														
	Carbonate Alkalinity as CaCO3														
	Bicarbonate Alkalinity as CaCO3														

Notes and Abbreviations:

BTVs have yet to be established for the DFADA or RWP as network wells for both are dry.
BTV - Background Threshold Value
$CaCO_3$ - calcium carbonate
CWTP - Combined Waste Treatment Pond
DFADA - Dry Fly Ash Disposal Area
GWPS - Groundwater Protection Standard
LPL - lower prediction limit
mg/L - milligrams per liter
N - nitrogen
N/A - not applicable
RL - reporting limit
RWP - Return Water Pond
SU - standard units
UPL - upper prediction limit
URS - Upper Retention Sump

Table 3-1
CCR Constituent Sample Containers and Hold Times

CCR Analyte Type	Parameter Name	Filtered	Analytical Method Code	Hold Time	Sample Container Size and Type	Preservation Method
App III	Chloride	N	EPA 300.0	28 days	500 mL, plastic	Cool ≤6 °C
App III & IV	Fluoride	N	EPA 300.0			
App III	Sulfate	N	EPA 300.0			
App III	pH [a]	N	SM 4500HB	15 minutes [a]		
App III	Total Dissolved Solids	N	SM 2540C	7 days		
Additional	Alkalinity as $CaCO_3$	N	SM 2320B	14 days		
Additional	Carbonate Alkalinity as $CaCO_3$	N	SM 2320B			
Additional	Bicarbonate Alkalinity as $CaCO_3$	N	SM 2320B			
App III	Boron	N	EPA 200.7	6 months	500 mL, plastic	HNO_3 to pH <2, cool ≤6 °C
App III	Calcium	N	EPA 200.7			
App IV	Beryllium	N	EPA 200.7			
App IV	Lithium	N	EPA 200.7			
Additional	Iron	N	EPA 200.7			
Additional	Manganese	N	EPA 200.7			
Additional	Potassium	N	EPA 200.7			
Additional	Magnesium	N	EPA 200.7			
Additional	Sodium	N	EPA 200.7			
App IV	Antimony	N	EPA 200.8 [b]			
App IV	Arsenic	N	EPA 200.8 [b]			
App IV	Barium	N	EPA 200.8 [b]			
App IV	Cadmium	N	EPA 200.8 [b]			
App IV	Cobalt	N	EPA 200.8 [b]			
App IV	Chromium	N	EPA 200.8 [b]			
App IV	Lead	N	EPA 200.8 [b]			
App IV	Molybdenum	N	EPA 200.8 [b]			
App IV	Selenium	N	EPA 200.8 [b]			
App IV	Thallium	N	EPA 200.8 [b]			
App IV	Mercury	N	EPA 245.1			
App IV	Radium 226/228	N	9320	1 year	1 L, plastic	Cool ≤6 °C
Additional	Iron	Y	EPA 200.7	6 months	500 mL, plastic	HNO_3 to pH <2, cool ≤6 °C
Additional	Manganese	Y	EPA 200.7			
Additional	Arsenic	Y	EPA 200.8 [b]			
Additional	Cobalt	Y	EPA 200.8 [b]			
Additional	Total Organic Carbon	N	SM 5310B	28 days	4x 40 mL amber glass	H_3PO_4 to pH <2, cool ≤6 °C
Additional	Dissolved Organic Carbon	Y	SM 5310B	28 days	4x 40 mL glass	Cool ≤6 °C
Additional	Ammonia as N	N	EPA 350.1	28 days	250 mL, plastic	H_2SO_4 to pH <2, cool ≤6 °C
Additional	Nitrate, Nitrite as N	N	EPA 300.0			

Notes and Abbreviations:

[a] pH is measured in field at time of sample collection and checked in laboratory
[b] With collision cell
°C - degrees Celsius
Additional - Non-CCR Constituent (for further water quality evaluations)
App III - CCR Appendix III Constituent
App IIV - CCR Appendix IV Constituent
CCR - Coal Combustion Residuals
$CaCO_3$ - calcium carbonate
HNO_3 - nitric acid
H_2SO_4 - sulfuric acid
H_3PO_4 - phosphoric acid
L- liter
mL - milliliter
N - nitrogen
NA - not applicable

Table 3-2
CCR Constituent Analytical Methods and Reporting Limits

CCR Analyte Type	Parameter Name	Filtered	Method Code	CAS #	RL	Units
App III	Chloride	N	EPA 300.0	16887-00-6	2.00	mg/L
App III & IV	Fluoride	N	EPA 300.0	16984-48-8	0.400	mg/L
App III	Sulfate	N	EPA 300.0	14808-79-8	2.00	mg/L
App III	Boron	N	EPA 200.7	7440-42-8	0.0500	mg/L
App III	Calcium	N	EPA 200.7	7440-70-2	2.00	mg/L
App III	Total Dissolved Solids	N	SM 2540C	STL00242	20.0	mg/L
App III	pH [a]	N	SM 4500HB	STL00204	1.68	SU
App IV	Beryllium	N	EPA 200.7	7440-41-7	0.00100	mg/L
App IV	Lithium	N	EPA 200.7	7439-93-2	0.020	mg/L
Additional	Iron	N	EPA 200.7	7439-89-6	0.100	mg/L
Additional	Manganese	N	EPA 200.7	7439-96-5	0.0100	mg/L
Additional	Potassium	N	EPA 200.7	7440-09-7	0.500	mg/L
Additional	Magnesium	N	EPA 200.7	7439-95-4	2.00	mg/L
Additional	Sodium	N	EPA 200.7	7440-23-5	0.500	mg/L
Additional	Iron	Y	EPA 200.7	7439-89-6	0.100	mg/L
Additional	Manganese	Y	EPA 200.7	7439-96-5	0.0100	mg/L
App IV	Antimony	N	EPA 200.8 [b]	7440-36-0	0.00100	mg/L
App IV	Arsenic	N	EPA 200.8 [b]	7440-38-2	0.00050	mg/L
App IV	Barium	N	EPA 200.8 [b]	7440-39-3	0.00050	mg/L
App IV	Cadmium	N	EPA 200.8 [b]	7440-43-9	0.00010	mg/L
App IV	Cobalt	N	EPA 200.8 [b]	7440-48-4	0.00050	mg/L
App IV	Chromium	N	EPA 200.8 [b]	7440-47-3	0.0010	mg/L
App IV	Lead	N	EPA 200.8 [b]	7439-92-1	0.00050	mg/L
App IV	Molybdenum	N	EPA 200.8 [b]	7439-98-7	0.00050	mg/L
App IV	Selenium	N	EPA 200.8 [b]	7782-49-2	0.00050	mg/L
App IV	Thallium	N	EPA 200.8 [b]	7440-28-0	0.00010	mg/L
App IV	Hg	N	EPA 245.1	7439-97-6	0.00020	mg/L
App IV	Radium 226/228	N	9320	NA	5.0	pCi/L
Additional	Arsenic	Y	EPA 200.8 [b]	7440-38-2	0.100	mg/L
Additional	Cobalt	Y	EPA 200.8 [b]	7440-48-4	0.0100	mg/L
Additional	Total Organic Carbon	N	SM 5310B	7440-44-0	0.500	mg/L
Additional	Dissolved Organic Carbon	Y	SM 5310B	7440-44-0	0.500	mg/L
Additional	Ammonia	N	EPA 350.1	7664-41-7	0.0500	mg/L
Additional	Nitrate Nitrite as N	N	EPA 300.0	STL00217	0.0500	mg/L
Additional	Alkalinity as $CaCO_3$	N	SM 2320B	STL00171	6.00	mg/L
Additional	Carbonate Alkalinity as $CaCO_3$	N	SM 2320B	STL00154	6.00	mg/L
Additional	Bicarbonate Alkalinity as $CaCO_3$	N	SM 2320B	STL00138	6.00	mg/L

Notes and Abbreviations:

[a] pH is measured in field at time of sample collection and checked in laboratory
[b] With collision cell
Additional - Non-CCR Constituent (for further water quality evaluations)
App III - CCR Appendix III Constituent
App IIV - CCR Appendix IV Constituent

CCR - Coal Combustion Residuals
$CaCO_3$ - calcium carbonate
Hg - mercury
N - nitrogen
NA - not applicable

Appendix A

APS CCR Field Forms

Pre-Job Brief Checklist

aps

STOP WORK CRITERIA:

CHECK EACH BOX AS YOU REVIEW IT

- ☐ **IF YOU ARE IN KNOWLEDGE BASE MODE, STOP AND SEEK HELP!**
- ☐ **ANY CHANGE IN JOB SCOPE, BIG OR SMALL, STOP, DO NOT PROCEED!**
- ☐ PRIOR TO START CONDITIONS ARE **NOT** AS EXPECTED
- ☐ TEST TERMINATION CRITERIA IS REACHED OR EXCEEDED
- ☐ PLANT / EQUIPMENT IS **NOT** AS EXPECTED
- ☐ WORK ENVIRONMENT / UNIT CONDITION CHANGE
- ☐ PLANT EMERGENCY
- ☐ INCIDENT OR INJURY

ENVIRONMENTAL: *Can work being performed result in an environmental challenge or event?*
☐ **YES** ☐ **NO**

Do we have proper used oil, secondary container labeling?
Do we have waste minimization, proper disposal?
Are we using dust minimization?
Do we have proper wastewater placement?

List Steps to control/mitigate risk:

GENERATION RISK REVIEW	**YES**	**NO**
Operating Unit affected?		
Critical Operating systems or equipment affected?		
Potential impact to other systems or equipment?		
Abnormal plant configuration?		
Generation risk elevated?		
Higher Authority Review Required?		

If yes on any of these questions, notify supervisor.

Can the work be performed while maintaining social distancing? ☑ **Yes** ☐ **No**
If NO Supervisor approval and additional PPE is required.

NOTES:

DATE:

STATION:

WR / WO #:

LOTO #:

EQUIPMENT:

SUB-COMPONENT:

TASK DESCRIPTION:

EXPECTED DURATION & RESULTS: HRS

PRE-JOB BRIEFING CONDUCTED BY:
PRINT NAME:

PJB PARTICIPANTS:
PRINT NAME(S):

NAME OF SS / OPERATOR IN CHARGE:

SUPERVISOR / CREW LEAD SIGNATURE (OPTIONAL):
MARQUES NOCKI

CONTACT NUMBER: 86-3338 or Channel 6

NO JOB IS SO URGENT OR SO IMPORTANT THAT IT CANNOT BE PERFORMED SAFELY

WHAT ARE THE CRITICAL STEPS IN THIS TASK?

An irreversible action that, when performed incorrectly, will adversely impact plant, systems, or personnel safety

WHAT ARE THE HAZARDS?

HOW WILL YOU PROTECT YOURSELF AND CONTROL THE HAZARDS?

PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE REQUIRED	YES	NO	TYPE
FALL PROTECTION			IF NECESSARY
FOOT			STEEL TOE
RESPIRATOR			ANY
ARC FLASH			
FACE PROTECTION			
HAND PROTECTION			GLOVES
EYE PROTECTION			SPOGGLES
HARDHAT			APS ISSUE
COVERALLS			APS ISSUE
HEARING PROTECTION			APS ISSUE

WHAT ARE THE POTENTIAL ERROR TRAPS?

- ☐ TIME PRESSURE
- ☐ DISTRACTIVE ENVIRONMENT
- ☐ HIGH WORKLOAD
- ☐ FIRST TIME EVOLUTION
- ☐ FIRST WORKING DAY AFTER DAY OFF
- ☐ ONE HALF HOUR AFTER WAKE-UP OR MEAL
- ☐ VAGUE OR INCORRECT GUIDANCE
- ☐ OVER CONFIDENCE INDUCERS
- ☐ IMPRECISE COMMUNICATION
- ☐ WORK STRESS

WHAT TOOLS WILL YOU USE TODAY TO AVOID ERROR TRAPS?

- ☐ PROCEDURE USE AND ADHERENCE

DOCUMENT NAME _____

- ☐ TWO MINUTE DRILL
- ☐ SELF-CHECKING
- ☐ PEER CHECKING
- ☐ THREE WAY COMMUNICATION
- ☐ PHONETIC ALPHABET
- ☐ QUESTIONING ATTITUDE, STOP WHEN UNSURE

JOB ELEMENTS (BLANK = N/A)

aps

☒	REQUIRED
	LOTO COMPLETE
	ENERGIZED EQUIPMENT WORK PERMIT
	JOB HAZARD ANALYSIS
	ENVIRONMENTAL ASSESSMENT
	PROCEDURE & ADHERENCE
	CONFINED SPACE PERMIT APPROVAL
	FME BOUNDARY REVIEW
	HOT PERMIT APPROVAL
	SDS REVIEW
	EMPLOYEE CERTIFICATION(S)
	SIGNS / BARRICADES
	EXCAVATION / TRENCHING
	CRANE / LIFTING / RIGGING REVIEW
	LADDERS
	COMMUNICATION WITH GROUPS
	LIVE / DEAD / LIVE
	TRAINING
	LAST TIME LESSONS LEARNED
☐	HAZARDOUS MATERIALS (ASBESTOS, LEAD, CHEMICALS)

CRITICAL INFRASTRUCTURE PROTECTION (CIP)

Will work being performed impact a Cyber Asset?

YES ☐ NO ☐ *(If yes, circle all that apply)*

PSP/Secure Location **ESP/Secure Network** **BCA/Assets**

Do workers have authorized access (*unescorted*)?

YES ☐ NO ☐ *(if no, who will escort?)*

Escort Name: _____

TAILGATE SAFETY MEETING REPORT

wood.

Project Name: _____ **Project Number:** _____
Project Manager: _____ **Field Manager Name:** _____
Safety Meeting Type: _____ **Date and Time:** _____
Site Health and Safety Officer (HSO):

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☐ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g. earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)
- ☐ Review AHAs with all parties engaged in the activity (EM-385 1-1, para 01.A.13.b)

Safety suggestions by site workers:

Action taken on previous suggestions:

Injuries/accidents/personnel changes since previous meeting:

Observations of unsafe work practices/conditions that have developed since previous meeting:

Location of (or changes in the locations of) evacuation routes/safe refuge areas:

Other Safety Topics Discussed:

Additional comments:

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Attendee Name (print)	Company	Signature	Attendee Name (print)	Company	Signature

Meeting Conducted By (print):	**Company and Title**	**Signature**

QA/QC'd by: **QA/QC Date:**

SUMMARY OF DAILY ACTIVITIES

Project Name: ______________________ **Project Number:** ______________________

Project Manager: ______________________ **Weather:** ______________________

Date and Time: ______________________ **Technician(s):** ______________________

Field Activity:

Description of Daily Activities and Events:

Time	Observation/Comment

List of Samples Collected:	**Technician Signature:**
Deviation from Plans:	
Visitors on Site:	**Technician Name** (print)**:**
Important Telephone Calls / Photos Taken:	

QA/QC'd by: **QA/QC Date:**

Photo Log

Project Name:	**Project Number:**
Project Manager:	**Field Personnel:**

Photo No. __			
Date/Time:			
Direction:		**Latitude:**	
GPS Accuracy:		**Longitude:**	
Description:			

Photo No. __			
Date/Time:			
Direction:		**Latitude:**	
GPS Accuracy:		**Longitude:**	
Description:			

Technician Signature:	**Technician Name:**		**QA/QC'd by:**
	Initials:	**Date & Time:**	**QA/QC Date:**

Water Level Collection Form

Project Name:	**Project Number:**
Project Manager:	**Technician:**

Well ID	Date & Time	Previous Groundwater Depth (ft btoc)	Depth to Groundwater (ft btoc)	Total Well Depth (ft botc)	Comments

Additional Notes:

Technician Signature:	**Technician Name** (print)**:**	**Initials:**	**QA/QC'd by:**
		Time:	**QA/QC Date:**

wood.

WATER QUALITY SAMPLING INSTRUMENT CALIBRATION FORM

Project Name: _____ **Project Number:** _____ **Project Manager:** _____

Sample Technician(s): _____ **Date:** _____

Calibration Start Time: _____

Calibration End Time:

Readings Before Calibration

Date	Time (24hr)	Temperature (°C)	pH (SU)	Turbidity (NTUs)	Specific Electrical Conductance (µS/cm)	D.O. (mg/L)	ORP/Eh (mV)	Barometric Pressure (mm Hg)	Comments

Readings After Calibration

Date	Time (24hr)	Temperature (°C)	pH (SU)	Turbidity (NTUs)	Specific Electrical Conductance (µS/cm)	D.O. (mg/L)	ORP/Eh (mV)	Barometric Pressure (mm Hg)	Comments

Calibration Materials Record:

pH Calibration Standards			Specific Electrical Conductance, Salinity, Dissolved Oxygen (DO) and Oxidation Reduction Potential (ORP) Calibration Standards			Turbidity Standards		
Standard	Cal. Standard Lot #	Expiration Date	Standard	Cal. Standard Lot #	Expiration Date	Standard	Cal. Standard Lot #	Expiration Date
pH (4)			Spec. Conductance			10		
pH (7)			D.O.			20		
pH (10)			ORP			100		
						800		

Instruments (Manufacturer, Model, and Serial No.):

	Manufacturer/Model	Serial No.
Water Quality Meter:		
Turbidity Meter:		

Calibrated Within Acceptance Criteria (Y/N): _____

If No, Provide Explanation:

Notes:

Signature:

Name (print)**:**

QA/QC'd by: **QA/QC Date:**

wood.

LOW FLOW SAMPLING RECORD

Project Name:	**Project Number:**
Project Manager:	**Technician(s):**
Well ID:	**Date:**

Initial Depth to Water (ft):	**Well Diameter (in):**	**Total Depth of Well (ft btoc):**
1 Casing Volume (gal):	**3 Casing Volumes (gal):**	**Method of Purging:**
Screened Interval (ft btoc):	**Measuring Point:**	**Pump depth (ft btoc):**
Minimum Required Purge (mL):	**Casing Stick-Up (ft):**	**Sample available (mL):**

Time	**Water Level (ft btoc)**	**Flow Rate ({Purge_Rate_Units})**	**Cum. Volume (gal.)**	**Temp. (°C)**	**pH (SU)**	**Specific Electrical Conductance (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Comments/Observations During Purging (color, sediment, odor, etc.)**
Stabilization Criteria				±3%	±0.1	±3%	±10% for >0.5 mg/L	±10 mV	±10% for >5 NTU	

Stability Reached (Y/N): If No, Provide Explanation:

Final Values:						

Sample ID:	**Method of Sampling:**
QA/QC Samples (Yes/No):	**Sample Date:**
Duplicate ID:	**Sample Collection Time:**
Sample Container Type(s):	**Total Volume Purged (gal):**
Preservative(s):	**Sample Depth (ft btoc):**
Analysis/Method(s):	**Depth to Water After Sampling (ft btoc):**

Instruments (Manufacturer, Model, and Serial No.):

Equipment Calibrated? (Y/N): Calibrated Within Criteria (Y/N):

Equipment Calibrated:

Turbidity Meter (if calibrated)	Water Quality Meter (if calibrated)	Control Box (if calibrated)	Water Level Meter (if calibrated)	Geosubersible Pump (if calibrated)
Manufacturer:	Manufacturer:	Manufacturer:	Manufacturer:	Manufacturer:
Model:	Model:	Model:	Model:	Model:
Serial Number:	Serial Number:	Serial Number:	Serial Number:	Serial Number:

Calculations:

Required purge volume (mL): V= Π(r^2)(L*30.48 cm/ft) + P

V = Volume (mL)
Π = 3.14
r = tubing radius (cm) = 3 mm = 0.3 cm
L = pump intake (ft) btoc
P = bladder pump volume = 105 mL

Saturated well casing volume: V= Π(R^2)H*7.48 gal/ft^3

V=Volume (gal/ft)
Π = 3.14
R = well radius (ft) = (well diameter (in)/12 (in/ft))/2)
H = height of water column (ft)

Name (print):

Notes:

Signature:

QA/QC'd by: **QA/QC Date:**

wood.

GRAB SAMPLING RECORD

Project Name:	**Project Number:**
Project Manager:	**Date:**
Sample Location ID:	**Technician(s):**

Parameters Collected (Y/N): **Justification if No to Parameters:**

Parameters	Time	Temp. (°C)	pH (SU)	Specific Electrical Conductance (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Comments/Observations (color, sediment, odor, etc.)

Sample ID:
Sample Type:
Sample Date:
Sample Collection Time:
QA/QC Samples (Yes/No):
Duplicate ID:
Sample Container Type(s):
Preservative(s):
Analysis/Method(s):

Sample Notes:

Instruments (Manufacturer, Model, and Serial No.):

Equipment Calibrated? (Y/N): Calibrated Within Criteria (Y/N):

Instruments Used:

Turbidity Meter (if calibrated)	Water Quality Meter (if calibrated)	Other Equipment (if calibrated)
Manufacturer:	Manufacturer:	
Model:	Model:	
Serial Number:	Serial Number:	

Notes:

Signature:

Name (print)**:**

QA/QC'd by: **QA/QC Date:**

wood.

COMPOSITE GRAB SAMPLING RECORD

Project Name:	**Project Number:**
Project Manager:	**Date:**
Sample Location ID:	**Technician(s):**

Grab Sample Location	Time	Temp. (°C)	pH (SU)	Specific Electrical Conductance (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Comments/Observations (color, sediment, odor, etc.)
Final Composite Values:								

Sample ID:
Sample Type:
Sample Date:
Sample Collection Time:
QA/QC Samples (Yes/No):
Duplicate ID:
Sample Container Type(s):
Preservative(s):
Analysis/Method(s):
Notes:

Sample Location Map:

[MAP of Sampled Area Here]

Instruments (Manufacturer, Model, and Serial No.):

Equipment Calibrated? (Y/N): _____ Calibrated Within Criteria (Y/N): _____

Instruments Used: _____

Turbidity Meter (if calibrated)	Water Quality Meter (if calibrated)	Other Equipment (if calibrated)
Manufacturer:	Manufacturer:	
Model:	Model:	
Serial Number:	Serial Number:	

Notes:

{Notes}

Signature:

Name (print)**:**

QA/QC'd by:

QA/QC Date:

Appendix B

Standard Operating Procedures

Standard Operating Procedure No. 01 for Documentation of Field Activities

March 1, 2021

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List of Acronyms and Abbreviations

CoC	Chain-of-custody
FDR	Field data record
ID	Identification
IDW	Investigation derived waste
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedure
Wood	Wood Environment & Infrastructure Solutions, Inc.

1.0 Purpose and Scope

Documentation of field activities will be completed using a combination of site logs, field logbooks, field data records (FDRs), sample tracking systems, sample custody records, and photographs. Site logs and field logbooks are completed to provide a general record of activities and events that occur during each field task. FDRs will be used for each exploration and sample collection task and should provide a complete record of data obtained during the activity. The sample custody procedures are intended to ensure that each collected sample is accounted for at all times (see Standard Operating Procedure [SOP] No. 04 Sample Handling), and that photographs of field activities provide a visual record of significant changes in site conditions and events.

Deviations from the procedures specified in the Site Sampling and Analysis Plan (SAP) and standard operating procedures (SOPs) must be clearly documented in the site log and/or field logbooks and applicable FDRs. Documentation will include at a minimum: specific changes or modifications to procedures; reasons for the deviations; authorization for changes; and interpreted impacts to the data quality.

Prior to conducting field investigation activities, field personnel must read the appropriate sections of this SOP that are relevant to the tasks to be completed (see Section 2.0). The Wood Environment & Infrastructure, Inc. (Wood) Field Lead will identify sections of the SAP and SOPs that must be reviewed prior to conducting a specific field activity and will include at a minimum, applicable investigation techniques and procedures, decontamination procedures, field Chain-of-custody (CoC) procedures and investigation derived waste (IDW) handling.

2.0 Procedures

2.1 Site Log and Field Logbooks

The site log and field logbooks provide a daily account of the field program progress. The site log may be handwritten or maintained electronically. The field logbook must be handwritten in blue or black ink.

2.1.1 Site Log

The site log is a record of all site activities completed for each day of operation, completed by the Wood field representative. This document may be handwritten in a bound hardcover book, on a Daily Field Record Form, or may be maintained electronically. Entries are to be made each day to document the important activities of that day. At a minimum the site log will contain the following information:

- Names, titles, and affiliation of all project-related personnel present at the site during each day of field operations;
- Date and time at start of field work;
- Temperature and weather conditions on day(s) of field work;
- Site identification (ID) where field work is being completed;
- A brief summary of all activities completed for each day of field operation;
- A listing of any changes made to the established program procedures;
- A summary of any problems encountered during the day including a description of corrective actions and potential impacts on the project; and,
- A summary of Health and Safety briefings held each day.

The electronic log may then be delivered regularly to the project team, to maintain open communication between the field program personnel and project team.

2.1.2 Field Logbook

Field logbooks are hardcover books that are permanently bound. All entries are made in permanent dark-colored ink, and corrections are made with a single line with the author's initials and date. Each page of the logbook will be dated and signed or initialed by the person completing the log. Partially completed pages will have a line drawn through the unused portion at the end of each day.

The cover of each logbook will be entitled with the facility and project name, the name of the subcontractor or agency completing the logbook, the logbook type (i.e., Site Log or sequentially numbered Field Logbook), and the date the logbook was started. Field logbooks are daily records of field task activities that are entered in real time by the onsite field personnel. The following information will be entered into the field logbooks:

- Logbooks will have at a minimum, a waterproof cover, and if possible, waterproof pages
- The date and time of each entry. The daily log should begin with weather conditions and the names and organization of personnel performing the documented task
- Date and signature will be in the same place on each page, either top or bottom
- Documentation of equipment calibration, maintenance, and decontamination activities
- Documentation of the sites where work is being completed
- A summary of important tasks or subtasks completed during the day
- A description of any field tests completed in association with the daily task
- A description of any samples collected including documentation of any quality control samples that were prepared (rinse blanks, duplicates, matrix spikes, split samples)
- The location of where each photo was taken and the direction in which the camera was pointed
- A summary of any problems encountered during the day including a description of corrective actions and potential impacts on the daily task
- Documentation of all visitors to the site and their affiliations
- If notes are taken on loose paper, they must be transcribed as soon as possible into a regular field logbook by the same personnel that wrote the original notes
- Any sketches or diagrams included in the field logbooks should include, at a minimum, north arrow, and a "Not to Scale" note
- FDRs such as boring logs, well construction diagrams and water level logs, will be maintained on separate forms and will not be repeated in the Field Logbook. However, a reference regarding the presence of field activity specific FDRs will be included in the Field Logbook. See Section 2.2 regarding FDRs

Note that the Field Logbook information above may also be recorded in the Site Log of Section 2.1.1. if the Site Log is maintained electronically or if space and entries on a Daily Field Record Form permits.

2.2 Sample Collection and Exploration Records

Sample collection and exploration records (i.e., FDR) will be completed (either handwritten or electronically) to document exploration and sample collection details. FDRs include field boring logs, field well completion diagrams, water level measurement forms, and any specific sampling forms. An FDR will be completed each time a field sample is collected or recorded in the Site or Field Log if specified. Field measurements and observations associated with a given exploration or sample collection task are to be recorded on the FDR, including, but not limited to, sample collection methods, materials, dates and times, and sample locations and identifiers. FDRs will be maintained throughout the field program in files that become a permanent record of field program activities.

2.3 Photographs

Activities will be documented in the field using photographs, as necessary. Photographs provide a visual record of conditions encountered during field investigations and a visual history of the completed activities. The field personnel will be responsible for taking photographs and maintaining a photographic file for the site. The location of where each photo was taken and the direction in which the camera was pointed will be recorded in the logbook and field map so that the logbook description, map location, and photo identification number will match. Photographs will be recorded digitally, and a copy of the digital photographs will be submitted with the report.

Standard Operating Procedure No. 02 for Field Measurements

March 1, 2021

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List of Acronyms and Abbreviations

DO	Dissolved oxygen
ME	Membrane electrode
ORP	Oxidation-reduction potential
SOP	Standard Operating Procedure
TDS	Total dissolved solids

1.0 Purpose and Scope

The purpose of this Standard Operating Procedure (SOP) is to establish guidelines for the use of a multiple parameter water quality meter such as the YSI 556 or equivalent. Multiple parameter meters measure water quality parameters including pH, temperature, salinity, turbidity, dissolved oxygen (DO), oxidation reduction potential (ORP), and specific conductance (conductivity) in water during well purging, well development, and surface water sampling for chemical analysis.

This SOP applies to all personnel who measure water quality parameters using a multiple parameter water quality meter.

2.0 Parameters To Be Measured

The following parameters will be measured during well purging, well development, and surface water sampling:

- pH;
- Temperature;
- DO;
- Specific conductivity;
- Salinity;
- ORP; and
- Turbidity.

3.0 Method

Water quality parameters such as pH, temperature, turbidity, DO, conductivity, ORP, and salinity are collected to determine conditions in surface or groundwater at a given location. A series of such determinations can be used to evaluate a variety of situations, from the performance of a groundwater treatment system to the spread of contaminant plume in groundwater. A multiple parameter water quality meter measures each of these parameters digitally. The pH is a primary parameter measured in the field to determine hydrogen-ion activity. It is measured using a glass electrode in combination with a reference potential. Temperature is measured because many water quality parameters vary with temperature. The solubility of oxygen is temperature dependent, as are all electrochemically determined water quality parameters (pH, conductivity).

Turbidity serves as a measure of suspended solids in a water sample. Since these suspended solids might result in elevated apparent concentrations of some contaminants (especially metals) to above levels of concern, the measurement of turbidity is a critical determination before collection of groundwater samples. Turbidity above acceptable levels will typically result in additional efforts to reduce the turbidity of the well water before collecting samples, since samples will be collected unfiltered unless otherwise approved.

DO is an indicator of the oxygen-consuming and oxygen-providing process taking place. It is an indicator of the biochemical processes occurring in the water and is related to the ORP. The most common membrane electrode (ME) meters for determining the DO in water are dependent upon electrochemical reactions. Under steady-state conditions, the current or potential can be correlated with DO concentration. Interfacial dynamics at the ME/sample interface are a factor in probe response and a

significant degree of interfacial turbulence is necessary to avoid a "stagnant layer" at the interface and resulting biased determinations. For acceptable precision to be obtained, flow over the DO membrane should be constant, as in the case of a flow-through cell used for groundwater sampling or a flowing stream for stream sampling.

Specific conductance is the ability of a volume of a solution to conduct an electrical current as compared to the same volume of pure water. Chemically pure water has a very low electrical conductance, indicating that it is a good insulator. However, minute amounts of dissolved mineral matter (total dissolved solids, [TDS]) in water increase the electrical conductance of water. In dilute solutions, the specific conductance varies almost directly with the TDS content of the samples. Salinity of the sample is computed from conductivity data.

3.1 Equipment

Equipment that will be used to collect water quality measurements using a multiple parameter water quality meter includes, but is not limited to, the following items:

- Multiple parameter water quality meter with power supply;
- Flow-through cell;
- Calibration solutions, as specified by the manufacturer;
- Calibration log form and field logbook for recording calibration (see *SOP No. 01, Documentation of Field Activities*);
- Clean sample containers (glass, plastic);
- Distilled or deionized water in wash bottle; and
- Operating manual for the multiple parameter water quality meter.

3.2 Calibration

The multiple parameter water quality meter may be calibrated in the field by using calibration solutions supplied by a commercial laboratory supply house. The specific calibration procedures in the owner's manual for the multiple parameter water quality meter should be followed. Generally, the calibration procedure involves measuring the value of a specific parameter in a standard calibration solution of a known value. The meter is typically calibrated to read the known value to within the acceptance criteria. The instrument should be calibrated prior to each workday of use. The initial instrument response and the final (calibrated) response will be recorded on the calibration log, along with the date and time of calibration. Calibration will be performed in accordance with the manufacturers' instructions.

3.3 Taking Measurements

To take measurements, turn the unit on and gently place the probe in the water sample. Typically, a select button can be pressed to toggle between the different parameters, if they are not all displayed on screen simultaneously.

Care should be exercised when handling the probes. The multiple parameter water quality meter should be lowered gently into the sample. The water quality meter should be allowed to stabilize for at least several seconds before collecting water quality parameter data. When conducting groundwater sampling, a flow-through cell should be used whenever possible to minimize wear and tear on the probes, eliminate the need for stabilization (since the electrode is constantly immersed in groundwater flowing over the

probes), and improve the consistency of the readings. A flow-through cell apparatus is a sealed container that allows water to flow through during pumping that has an inlet and outlet for water to pass through. It also has an opening at the top for placement of the water quality probe so that the probes are continually submersed in water during sampling. To use the flow-through cell, attach tubing to the inlet and outlet ports. Insert the water quality probe inside the flow-through cell at the top and screw it in place. The flow-through cell is then filled up with water as the well is purged. The water quality meter should be turned on to record readings. Water quality measurements are recorded on field sheets and/or field books at regular intervals until parameters are stabilized. Multiple determinations as an indication of field precision should be conducted more frequently than every tenth reading if precision problems are apparent.

3.4 Maintenance and Storage

After using the water quality meter, thoroughly wash all probes with analyte free water. The turbidity sensor tube should be periodically washed out with a test tube brush and analyte free water, or according to the manufacturer's instructions. The conductivity guard should be periodically removed to brush away any dirt from the sensor unit. If storing the unit for a week or less, fill the calibration cup with tap water (*not distilled or deionized water, which can damage the probes*) and fit the cap over it. For long-term storage, follow the manufacturer's instructions.

3.5 Additional Considerations

Operators of field equipment should refer to the manufacturer's instructions for step-by-step calibration and usage guidelines. Additional considerations of a general nature include:

- The water quality meter must be checked for mechanical and electrical failures, weak batteries, and cracked or fouled electrodes before field activities;
- Perform calibration using the appropriate solutions as described in the manufacturer's instructions;
- Clean and rinse probes thoroughly using distilled or deionized water in a wash bottle between all samples and at the end of the day. Each time the electrodes are cleaned, they should be examined for damage;
- Some electrodes (e.g., pH and DO electrodes) must **NOT** be allowed to dry completely, as this may permanently alter the physical or electrochemical properties of the electrode surface; and
- Note that oily samples are likely to result in fouling of the electrodes and more aggressive cleaning procedures (such as mild acid washing) will be required, as described in the manufacturer's instruction manual. After such cleaning, a calibration check must be performed; typically, such cleaning will necessitate recalibration.

Standard Operating Procedure No. 03 for Field Sampling

March 1, 2021

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List of Acronyms and Abbreviations

DO	Dissolved oxygen
HASP	Health and Safety Plan
ID	Identification
L/min	Liters per minute
mV	Millivolts
ORP	Oxidation-reduction potential
PPE	Personal protective equipment
QAPP	Quality Assurance Project Plan
QA/QC	Quality assurance/quality control
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedure
VOA	Volatile organic analyte

1.0 Purpose and Scope

This Standard Operating Procedure (SOP) is prepared to direct field personnel in the methods for collecting subsurface soil samples and groundwater samples.

2.0 Procedure

2.1 Soil Sampling

Collecting soil samples is an important site characterization activity. Soil samples are used to determine the nature and extent of contamination, to identify hazardous substance source areas, and to determine the geotechnical, hydrogeologic, physical, and chemical properties of site soils. Field conditions at the site may preclude collection at one or more predetermined sample locations. Additional soil sampling may be required, if unexpected subsurface conditions are observed during the course of the sampling activity. Proper sampling techniques, proper selection of sampling equipment, and proper decontamination procedures will eliminate cross-contamination and introduction of contaminants from external sources.

Sonic drilling will typically be employed when a continuous core of the subsurface lithology is required. Split-spoon soil sampling can be conducted with sonic drilling. However, since a continuous core is produced during drilling, split-spoon sampling is unnecessary. The core barrel is vibrated into the ground 10 or 20 feet ahead of the outer drill casing. The outer drill casing is then advanced to the bottom of the core barrel and the core barrel is then removed from the hole and the core is extruded into a plastic sleeve. The core is measured for recovery and recorded on the soil boring log. The plastic sleeve should then be cut open to reveal the soil collected. The sample will be then inspected for changes in lithology, color, moisture, and density and recorded on the soil boring log. Photos of the sample should be recorded as per SOP No. 01, *Documentation of Field Activities*. Once all inspections and recordings of the soil sample have been concluded, the sample should then be collected into a 1-gallon Ziploc bag. A stainless-steel trowel should be used to scoop up representative samples to fill the entire 1-gallon Ziploc bag. The sample should be labeled appropriately and double bagged to secure the sample.

Equipment that will be used to collect subsurface soil samples includes, but is not limited to, the following items:

- Stainless steel spoons/trowels;
- Stainless steel bowls/pans;
- Nitrile rubber gloves;
- Field notebook/logbook/boring log;
- Waterproof/permanent marker;
- Paper towels;
- Appropriate decontamination equipment;
- Appropriate health and safety equipment;
- Sample containers and labels;
- Chain-of-custody forms;
- Munsell Soil Color Charts;
- Grain size charts;

- Ziploc® freezer bags.

2.2 Groundwater Sampling

The main method to collect groundwater samples from existing wells is the low-flow purge method. To obtain representative groundwater samples, disturbances of the water in the well should be kept to a minimum. The reasoning behind the use of low-flow sampling techniques to sample monitoring wells is to minimize physical disturbance (turbulence) at the sampling point and chemical changes (aeration) in the medium. Another benefit of low-flow sampling techniques is the total volume of water purged is minimized. For the purposes of this procedure, "low-flow pumps" are defined as dedicated or portable bladder pumps, or variable speed submersible pumps. Practical operational flow rates for these sampling devices range from 0.1 liters per minute (L/min) to greater than 1 L/min. Generally, flow rates should be maintained at 0.5 L/min or less.

2.2.1 Major Low-Flow Equipment Items

- Variable-rate, submersible pump/hose assembly with control unit, or bladder pump with control unit;
- Air compressor or other air supply if required; and,
- Purge water drums or purge water tank.

2.2.2 Low-Flow Equipment Support Items

- Trash bags;
- Gloves (nitrile);
- Graduated 5-gallon bucket(s) and graduated cylinder;
- Paper towels;
- Calculator; and
- Stopwatch.

2.2.3 Low-Flow Sampling Supplies

- Written description of wells including identification (ID) numbers, maps, well locations, elevations, well construction details, and (if available) records of previous development and/or purging and sampling;
- Well keys;
- Sample containers with applicable preservative(s);
- Filters with disposable tubing (if filtration of samples is required);
- Chain of custody forms;
- Sample labels;
- Field data and sampling forms;
- Ice chest;
- Ice for sample preservation;
- Plastic bags;

- Field logbook and/or daily field record forms; and
- Pen and waterproof permanent marker for labels.

2.2.4 Monitoring Equipment

- Electronic water level indicator; and
- Water quality sampling field instrumentation (e.g., pH, temperature, specific conductance [conductivity], turbidity, dissolved oxygen [DO], oxidation-reduction potential [ORP] probes).

2.2.5 Health and Safety Items

- First aid kit;
- Fire extinguisher;
- The Site-specific Health and Safety Plan (HASP), Safety Data Sheets, emergency information packet (route to hospital, phone contacts); and
- Cell phone.

2.2.6 Measurement of Water Quality Parameters and Instrument Calibration

Electronic equipment used during purging and sampling will include, at a minimum, a water level indicator and water quality measurement devices for temperature, pH, conductivity, turbidity, DO, and ORP. Before going into the field, the Field Task Leader will verify that these instruments are operating properly. Each probe of the water quality-measuring device must be calibrated prior to its use and checked at the beginning and end of each day for maintenance of calibration. Calibration procedures will follow the manufacturer's instructions. If instrument readings become erratic during normal operations, recalibration will be conducted.

Person(s) responsible for calibrating equipment will complete the equipment specific calibration form, which includes identifying calibration standards and affixing a signature to the form. Field measurements for temperature, pH, turbidity, conductivity, DO, and ORP will be made in accordance with procedures outlined in SOP No. 02, *Field Measurements*, along with the manufacturer's instructions.

2.2.7 Low-Flow Methodology

The purpose of well purging is to remove stagnant water from the well and obtain a representative water sample from the geologic formation being sampled while minimizing disturbance of the water column during sample collection. Using the low-flow purging methodology, the well will be purged until field parameters (pH, temperature, turbidity, DO, ORP, and conductivity) have stabilized. Stabilization requirements will be outlined in the Site-specific sampling and analysis plan (SAP). Readings will be taken at a rate commensurate for the flow involved, but no sooner than every three minutes. Low-flow purging rates on the order of 0.1 – 1.0 L/min will be used depending on the site-specific hydrogeology. Note: Flow rates may be stipulated by a Site-specific SAP. If so, that SAP will be considered the prevailing document. If drawdown exceeds 0.3 feet during purging, the purge rate should be lowered and the drawdown re-evaluated during the next measurement interval. Multiple iterations may be necessary (continuing to lower the purge rate if needed down to 0.1 L/min or the least practical rate) with at least 3-5 minutes to observe and evaluate the drawdown before abandoning the low-flow purge method in favor of a another purging and sampling method. If drawdown continues to exceed 0.3 feet and the other water quality

parameters are unstable, then alternative sampling methods as outlined in the Site-specific SAP may be utilized. Purge water will be managed as outlined in SOP No. 06, *Investigation-Derived Waste Management*. Necessary precautions will be taken to prevent spilling of potentially contaminated water. The water will need to be containerized and appropriately disposed in accordance with the Site-specific SAP.

2.2.8 Low-Flow Purging

For standard low-flow well purging, the following steps will be performed at each well:

- The condition of the well completion (outer well casing, concrete well pad, protective posts, well label) and any unusual conditions of the area around the well will be noted on the daily field record and/or low-flow sampling record. The well may also be photographed. Any deficiencies encountered will be reported to the appropriate project designee.
- Set up and establish an exclusion zone around the work area, using traffic cones, caution tape, and/or vehicle indicator lighting where necessary.
- Don personal protective equipment (PPE) as specified in the Health and Safety Plan (HASP).
- Note if the reference point (measuring point) on the well is present. This is usually an indelible mark or V-notch cut in the top of the well casing. If this point is missing, static water level should be measured on the north side of the well casing.
- The depth of the static water level will be measured with a water level indicator (to the nearest 0.01 foot).
- If deploying a pump, slowly lower the pump or pump tubing into the well casing to 5 feet below the water table or, in instances where the well screen is submerged, to the middle-point of the screen interval. Reinsert the water level indicator to monitor water levels during purging. Note: Sample pump elevations may be stipulated by a Site-specific SAP. If so, that SAP will be considered the prevailing document.
- Start the pump. As soon as water is discharging, adjust the pump speed to a rate between 0.1 – 0.5 L/min that is suitable to create minimal drawdown. During purging and sampling, the maximum allowable drawdown is 0.3 feet (see Section 2.1.2.3).
- Using a stopwatch and some type of graduated cylinder, measure the pumping rate. Monitor the water level, pumping rate, cumulative volume withdrawn, and field parameters (temperature, pH, turbidity, conductivity, DO, and ORP) approximately every 3 to 5 minutes.
- A flow-through cell will be used in conjunction with the water quality meter, with inflow at the bottom of the cell and outflow at the top.
- Low-flow purging is complete only when all required field parameters have stabilized (temperature, pH, turbidity, conductivity, DO, and ORP). Stabilization is generally achieved when three consecutive readings show temperature is within ± 3%, conductivity is within ± 3%, pH values are within ± 0.1 pH unit, turbidity and DO are within ± 10%, and ORP is within ± 10 millivolts (mV). Note: Stabilization criteria may be stipulated by a Site-specific SAP. If so, that SAP will be considered the prevailing document. The appropriate project designee has the responsibility of determining if redevelopment of any monitoring well is necessary and appropriate. If the parameters do not stabilize, a minimum of 3 well casing volumes will be purged prior to sampling.
- After low-flow purging is complete, collect the groundwater sample per the steps described in Section 2.1.2.3.2.

2.2.9 Low-Flow Sampling

Using low-flow sampling procedures, samples for chemical analysis will be collected immediately following purging. The water quality samples will be taken from within the well screen interval. The following sampling procedure will be used at each well:

- After the monitoring well is considered purged and before filling sample vials, the water quality meter and any other instruments or hardware (e.g., flow meters, couplings, etc.) will be disconnected from the sampling tube.
- Immediately following purging, the pump will be used to collect the groundwater sample. The pump should not be moved between purging and sampling, unless a peristaltic pump is used.
- Volatile organic analyte (VOA) sample vials should be completely filled so the water forms a convex meniscus at the top, then capped so that no air space exists in the vial. Turn the vial over and tap it to check for bubbles in the vial. If air bubbles are observed in the sample vial, discard the vial and collect another sample.
- Fill container for inorganics, inorganic anions, and other parameter analyses until almost full. Samples will be preserved and managed as detailed in the SAP and Site Quality Assurance Project Plan (QAPP).
- After the samples have been collected, they should immediately be placed in an ice-filled cooler until relinquished to the laboratory or shipped to the appropriate laboratory for analysis. Sample bottles may become warm in the field when left in the sun or in the field vehicle; therefore, an effort will be made to ensure that sample containers are kept on ice to prevent warming of the bottles.
- After removing the pump and equipment from the well, replace and lock the well cap.

2.2.10 Quality Assurance/Quality Control (QA/QC) Procedures and Samples

QA/QC samples will be collected during groundwater sampling according to the QAPP and SAP. QA/QC samples may be labeled with QA/QC identification numbers (or fictitious identification numbers if blind submittal is desired), and sent to the laboratory with the other samples for analyses.

2.2.11 General Equipment Decontamination

Before purging or sampling, all pumps and hoses, water level measurement devices, and any other sampling equipment that may come in contact with multiple sample location waters will be decontaminated. If new dedicated equipment is used, it should be thoroughly decontaminated and rinsed with distilled water before placement in the well. While decontamination of the pump/hose assembly may generally be performed at a central decontamination area, mobile decontamination supplies will be made available so that some accessory equipment (e.g., electronic water level indicators) can be decontaminated in the field. Purge water and decontamination solutions will be handled and disposed of as outlined in SOP No. 06, *Investigation-Derived Waste Management*. The procedures specified in SOP No. 05, *Equipment Decontamination,* will be followed for decontamination of field equipment and for personnel decontamination.

3.0 Documentation

Field notes will be kept in a bound field logbook as required by SOP No. 01, *Documentation of Field Activities* and on appropriate field sampling forms. The following information will be recorded on sampling forms:

- Names of sampling personnel;

- Project title;
- Location and well number;
- Date and time of sampling;
- Initial and final static water level, total well depth;
- Method of purging;
- Volume of water purged before sampling;
- Purge start/stop times;
- Pumping rate, if applicable;
- Field parameter measurements during purging;
- Method of sample collection;
- Sample identification numbers;
- Photo documentation, if applicable;
- QA/QC samples collected; and
- Irregularities or problems.

Equipment decontamination and calibration information will be recorded in the daily field record.

Standard Operating Procedure No. 04 for Sample Handling

March 1, 2021

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List of Acronyms and Abbreviations

°C	Degrees Celsius
AB	Ambient blank
ASAP	As soon as possible
CaCO3	Calcium carbonate
CO3	Carbonate
CFR	Code of Federal Regulations
CoC	Chain-of-custody
DOC	Dissolved organic carbon
DOT	Department of Transportation
EB	Equipment blank
FB	Field blank
FD	Field duplicate
FS	Field spike
HCO3	Bicarbonate
Hg	Mercury
HNO3	Nitric acid
H3PO4	Phosphoric acid
H2SO4	Sulfuric acid
ID	Identification
MS	Matrix spike
MSD	Matrix spike duplicate
N	Nitrogen
NH3	Ammonia
NO2	Nitrite

NO3	Nitrate
QA/QC	Quality assurance/quality control
SOP	Standard Operating Procedure
SS	Split sample
TB	Trip blank
TDS	Total dissolved solids
TOC	Total organic carbon
USPS	United States Postal Service

1.0 Purpose and Scope

The purpose of this Standard Operating Procedure (SOP) is to assure representative environmental sample data by documenting the management of samples from time of collection through analysis and final disposition.

This SOP applies to all personnel who collect and/or handle environmental samples.

2.0 Container and Preservation Requirements

Most chemical and biological reactions and many physical processes are slowed by lowering the temperature. Therefore, all samples need to be cooled at the time of collection and maintained slightly above freezing until preparation for final analysis.

All sample containers will be supplied in advance by the subcontracting laboratories.

The required chemical preservatives for aqueous samples will normally be added to the appropriate containers by the subcontracting laboratories prior to delivery to the field. Pre-preserved sample containers are preferable so that the laboratory scheduled to do the analysis maintains control over sample integrity and container cleanliness. Sample preservatives should be identified on the sample label and the sample log form.

Container and preservation requirements vary by sample medium and analysis. Table 2-1 summarizes the requirements for environmental samples that may be collected at the site.

3.0 Sample Identification

Individual samples will be identified by a unique alphanumeric code (also referred to as the sample identification [ID] number) which will be written on the sample label and recorded on the Chain of Custody (CoC) form. Use dashes only, no spaces or underscores are acceptable. There is an allowable limit of 30 characters.

3.1 Water Samples

3.1.1 Water Investigative Samples

The preferred naming convention for water samples is as follows: Each sample ID will begin with the site abbreviation – in this case CH-CCR (for Cholla Coal Combustion Residuals groundwater monitoring program) or FC-CCR (for Four Corners Coal Combustion Residuals groundwater monitoring program), followed by (with dashes in between):

Location ID = May consist of a monitoring well, extraction well, sump, or surface water ID with no dashes or spaces in the ID. If the location is new, follow the standard naming convention used for similar locations established. Example: MW74M = monitoring well MW-74M, FAP = FAP surface water.

Sample Date = date of sample collection in MMYY format. Example: 0421 = April 2021.

Letter Code = optional identifier to be used only if multiple samples are collected from the same location in the same month. Alphabetical letters starting with 'A' will be used to make each sample collected unique.

Examples of sample IDs are listed below:

CH-CCR-MW74M-0421 = where the site ID is Cholla (abbreviated CH-CCR); location ID MW74M is for monitoring well MW-74M; and the sample collection date is April 2021.

CH-CCR-FAP-0421-B = where the site ID is Cholla (abbreviated CH-CCR); location ID FAP is for FAP surface water; the sample collection date is April 2021; letter code B is for a second FAP sample collected in April of 2021.

3.1.2 Water Quality Assurance/Quality Control (QA/QC) Samples

QA/QC samples should be named as follows: Each sample ID will begin with the site abbreviation – in this case CH-CCR (for Cholla Coal Combustion Residuals groundwater monitoring program) or FC-CCR (for Four Corners Coal Combustion Residuals groundwater monitoring program), followed by (with dashes in between):

QC Type = Alphabetic code given for each type of quality control sample followed by a two-digit sequential number starting with 01 to accommodate multiple quality control samples types. Quality control types codes are as follows:

FD= Field Duplicate

TB = Trip Blank

EB = Equipment Blank

SS = Split Sample

FB = Field Blank

FS = Field Spike

AB = Ambient Blank

Sample Date = date of sample collection in MMYY format. Example: 0421 = April 2021.

Examples of QA/QC sample IDs are listed below:

CH-CCR-FD01-0421 = where the site ID is Cholla (abbreviated CH-CCR); QC type FD is field duplicate (01 indicates it is the first field duplicate collected, the next field duplicate collected would be FD02); the sample collection date is April 2021.

CH-CCR-SS04-0421 = where the site ID is Cholla (abbreviated CH-CCR); QC type SS is split sample (014 indicates it is the fourth split sample collected); the sample collection date is April 2021.

Important note: Many quality control types (e.g., FD and SS) are associated with parent samples (or primary samples) which **must** be noted in the daily field record and sampling form so as to identify where the quality control sample came from. Sample times for FD quality control samples should be fictitious as to avoid laboratory identification with a parent sample (i.e., FD samples are blind samples).

3.2 Sample Labels

Sample labels are required to prevent misidentification of samples. Sample labels will generally be pre-printed and taken to the field.

The sample label will be affixed to the proper sample container at the time of the sampling event by the field sampler. The labels will contain the following pre-printed information:

- Sample ID;

- Analyses requested;
- Preservatives used;
- Sample matrix; and
- Matrix spike/matrix spike duplicate (MS/MSD) if required.

During a sampling event, the field sampler will write the following information on the label:

- Field sampler's initials;
- Date (mm/dd/yy, i.e., 04/03/21 for April 3rd, 2021); and
- Time of sample collection (military format).

4.0 Sample Packaging and Shipping

Environmental samples and quality control samples are collected, labeled, and sealed in the field, and CoC is maintained.

40 Code of Federal Regulations (CFR) Part 261.4 describes sample shipping requirements. It states that:

"... a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing its characteristics or composition, is not subject to any requirements of this part (hazardous materials shipping requirements)... when:

(i) The sample is being transported to a laboratory for the purpose of testing; or

(ii) The sample is being transported back to the sample collector after testing.

In order to qualify for the(se) exemption(s)..., a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(i) Comply with Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(ii) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(A) Assure that the following information accompanies the sample:

(1) The sample collector's name, mailing address, and telephone number;

(2) The laboratory's name, mailing address, and telephone number;

(3) The quantity of the sample;

(4) The date of shipment; and

(5) A description of the sample.

(B) Package the sample so that it does not leak, spill, or vaporize from its packaging.

Samples will be assessed to determine potential hazard. Potentially hazardous samples are required by law to be properly handled and labeled.

Good judgment on the part of the sample coordinator is necessary to identify hazardous samples. Samples collected from chemical or fuel drums and tanks, stained or otherwise obviously contaminated

soil, free product from a well, leachates, sludges, and samples with headspace readings noted above are all hazardous samples. Hazardous waste samples will be shipped according to DOT regulations.

Samples determined to be non-hazardous by the Sample Coordinator are environmental samples. They are to be labeled, packaged, documented, and shipped as described below:

- Determine the maximum allowable weight of each cooler (e.g., Federal Express limit for Priority Overnight shipping is 150 pounds).
- Place each container in a Ziploc® bag and seal, squeezing as much air as possible from the bag before closing. Glass bottles and jars will be wrapped in bubble wrap.
- Tape the cooler's drain plug shut on the inside and the outside, unless using dry ice in shipment.
- Place a large size plastic bag (trash bag) in the cooler to contain samples.
- Place the bottles upright in the plastic bag, with enough room for ice bags to be placed among and around the containers, and insulate with enough bubble wrap to deter breakage.
- Place ice (double-bagged) among the containers along the walls and top of each cooler in a manner to ensure uniform cooling. When shipping soil samples, place one bag of ice along the bottom of the cooler as well. For water samples, it is possible to place the bottles upright in absorbent material to provide additional stability. Do not use Blue Ice, as its heat capacity is lower than regular ice. If the Sample Shipper/Controller is informed by the laboratory that the samples are not being chilled sufficiently, additional ice may be required. Note that in summer months, more ice may be needed to ensure the samples arrive cold at the laboratory.
- If shipping via commercial carrier (e.g., Federal Express), write the carrier's airbill number on the CoC form, place the appropriate pages of the CoC form inside a Ziploc® bag, and seal the bag with a signed, dated custody seal. The CoC form has three pages. The original and one copy are sealed inside the Ziploc® bag and placed inside the cooler. Another copy should be kept and placed in field files. The CoC form sent to the laboratory must be completed with all designated information, the pages must be originals (not photocopies), and the CoC must be unique to the samples contained in the cooler.
- If a courier from the laboratory is collecting the samples and delivering them to the laboratory, have the courier confirm that all samples listed are present, and then sign the CoC form. Tape the Ziploc® bag, with the CoC form, to the inside lid of the cooler and then close and latch the cooler.
- Wrap strapping tape completely around the cooler on both sides of the latch.
- Affix the shipping label with the address and telephone number of the laboratory and the contractor.
- Affix signed custody seals on the front right and back left of the cooler across the lid, so as to tear if the cooler is opened during shipping.
- The laboratory should be notified if the samples are being delivered via courier. They should be prepared to receive and check the samples and sign the CoC form as the sample receiver.

5.0 Chain-of-Custody Procedure

CoC forms are used to legally track samples from time of collection through completion of laboratory analysis.

The following information will be preprinted on the CoC form when possible:

- Project name;

- Name and address of laboratory; and
- Potential analysis and method numbers.

The following information will be written on the CoC form by the sample controller/shipper:

- Site name;
- Name of receiving laboratory;
- Sample IDs for all samples in a particular cooler/shipping container;
- Sample matrix or matrix code;
- Sample type (environmental, "TB", "EB", etc.), which is encrypted in the sample ID code;
- Analysis requested by method number unless other arrangements are made with the receiving laboratory;
- Number of containers;
- QC required (to indicate the sample is to be used for MS/MSD analyses);
- Date of collection (mm/dd/yy: 04/03/21 is April 3, 2021);
- Time of collection (military format);
- Signature of individual who prepares the CoC form;
- Cooler ID (if applicable);
- Carrier service and airbill number; and
- Signature of individual relinquishing samples along with the date and time of relinquishment.

Upon completion of the form, retain two copies and affix the original and one copy to the inside of the sample cooler (in a Ziploc® bag to protect from moisture), to be sent to the designated laboratory.

Every person involved with sample collection and handling will know and understand the CoC form. The sample shipper will complete the CoC form while preparing the samples for shipment. This individual or other authorized person will sign the "Relinquished By" box and enter the shipper's name in the "Received By" box prior to sealing a sample shipping container for courier pickup after ensuring that samples and CoC forms match (in other words, only samples identified on the enclosed CoC forms are in the container and all samples enclosed are listed on the CoC forms enclosed). The "Received By" box will be signed by the laboratory sample receipt staff. As long as CoC forms are sealed inside the sample shipping container, commercial carriers are not required to sign the CoC form.

Distribution of the CoC form will be:

- Original and one copy – sealed in plastic bag and taped inside the top of the shipping container;
- One copy – file in appropriate project file.

All changes to a CoC form will be made by striking the incorrect information with a single line, initialing and dating the strike, and inserting the correct information. If changes are made to a COC form after the original distribution, the following steps will be taken:

- Make the change by striking the incorrect information with a single line, initialing and dating the strike, and inserting the correct information (in black or blue indelible ink). Add a comment as to why the change was made, as appropriate; and,
- Distribute copies of the corrected CoC form as specified above.

Whenever a sample is split with a second party (e.g., client, agency) a separate CoC form must be prepared for those samples.

Table 5-1: Requirements for Environmental Samples Collected

Analytical Parameter	Analytical Method	Matrix	Holding Time (from sample date)	Preservation
Metals (Total and Dissolved*)	200.7, 200.8[b]	Aqueous	6 months	4°C, HNO_3 to pH<2
Total Hg	245.1	Aqueous	6 months	4°C, HNO_3 to pH<2
pH, TDS	SM4500-HB, SM 2540C	Aqueous	ASAP, 7 days	4°C
Anions (Chloride, Fluoride, Sulfate)	300.0	Aqueous	28 days	4°C
Radium 226/228	9320	Aqueous	NA	4°C
Total Organic Carbon (TOC)	SM 5310B	Aqueous	28 days	4°C, H_3PO_4 to pH<2
Dissolved Organic Carbon (DOC)	SM 5310B	Aqueous	28 days	4°C
Alkalinity (CO_3 and HCO_3 as $CaCO_3$)	SM 2320B	Aqueous	28 days	4°C
NH_3 and NO_3+NO_2 as N	SM 4500 NH3, SM 4500 E/B	Aqueous	28 days	4°C, H_2SO_4 to pH<2
NO_3+NO_2 as N	300.0	Aqueous	28 days	4°C, H_2SO_4 to pH<2

Notes:

* Samples will be filtered in the field and preserved with HNO_3 when required
[b] With collision cell
ASAP = as soon as possible
°C = degrees Celsius
$CaCO_3$ =calcium carbonate
CO_3 = carbonate
HCO_3 = bicarbonate
Hg = mercury
HNO_3 = nitric acid
H_3PO_4 = phosphoric acid
H_2SO_4 = sulfuric acid
N = nitrogen
NH_3 = ammonia
NO_2 = nitrite
NO_3= nitrate
TDS = total dissolved solids

Standard Operating Procedure No. 05 for Equipment Decontamination

March 1, 2021

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List of Acronyms and Abbreviations

HASP	Health and Safety Plan
IDW	Investigation-derived waste
PPE	Personal Protection Equipment
SOP	Standard Operating Procedure

1.0 Purpose and Scope

This Standard Operating Procedure (SOP) provides technical guidance and methods that will be used to conduct decontamination of investigation equipment during environmental investigations. This SOP serves as a supplement to the investigation specific work plans and is intended to be used in conjunction with the other SOPs in this volume.

2.0 Materials And Equipment

The following materials and equipment may be needed for equipment decontamination.

- Monitoring equipment and personal protective equipment (PPE) as outlined in the Site-Specific Health and Safety Plan (HASP).
- Decontamination equipment and supplies (e.g., wash/rinse tubs, brushes, Liquinox®, plastic sheeting, paper towels, sponges, disposable wipes, large plastic bags, potable water, distilled water and/or deionized water)
- Drums or other approved water-tight containers for containing decontamination sediment and fluids
- Materials necessary to construct an investigation site-specific decontamination facility, if required (e.g., heavy plastic sheeting, berming materials, sump pump, water tanks, roll-off bins)

3.0 Procedures

The following procedures will be implemented to prevent cross-contamination between sampling points and exploration locations. Sampling methods will use disposable or dedicated sampling tools and materials whenever possible to minimize generating liquid investigative derived waste (IDW). Non-disposable sampling, drilling, and excavation equipment will be decontaminated upon arrival to the site (if required), prior to leaving the site, and between sampling activities at different explorations. All equipment will be decontaminated between each exploration.

A temporary decontamination pad may be constructed at a central location. Other temporary decontamination pads may be constructed closer to exploration areas, as necessary. Water and sediment generated during decontamination will be containerized and handled as IDW material unless otherwise specified according to any field or work plans. All IDW will be handled in accordance with IDW management procedures presented in SOP No. 06*, Investigative-Derived Waste Management*.

Equipment rinsate blanks may be collected in order to verify the adequacy of the decontamination process for any reused equipment. For soil and groundwater sampling equipment, reagent-grade deionized water will be poured over the sampling equipment and collected in appropriate sample containers. Equipment rinsate blank frequency will be as indicated in an associated field or work plans.

3.1 Small Sampling Equipment Decontamination

Non-disposable sampling equipment will be decontaminated after collection of each sample. The small sampling equipment is sub-divided as follows.

3.1.1 Soil Sampling Equipment

Soil sampling equipment may consist of split-spoon samplers, trowels, and hand augers. Decontamination will be performed prior to collection of each sample as follows:

- Wipe remaining surface debris, if any, with clean paper towel (or equivalent disposable material).
- Wash object with a non-phosphate detergent (Liquinox® or equivalent) and potable water.
- Flush with potable water. Rinse object with distilled/deionized water.

Prior to intrusive drilling, down-hole sampling, and excavation, visual inspection of equipment will be documented in the field logbook. Sample containers will be wiped clean after sampling and before being moved to the sample handling and shipping area. Sample handling and shipping areas will be cleaned and wiped down daily, when in use.

3.1.2 Groundwater Sampling Equipment

Groundwater samples will be collected using dedicated pumps, ports or discharge points from piping of submercible pumps. Ports from which groundwater is collected during development and aquifer testing should be decontaminated by the contractor between wells. Any reusable tubing attached to the sample port will be decontaminated by a Liquinox® and potable or distilled water mix and rinsed with distilled water. All bailers that may be utilized for sampling purposes will be disposable. Therefore, decontamination of bailers is not required. However, any reels, rope, or like-materials to be reused with the disposable bailers will be decontaminated between uses.

3.2 Monitoring Equipment Decontamination

Other monitoring equipment that require decontamination are water level probes and water parameter probes/flow-through cells. This equipment will be decontaminated in the same manner as soil sampling equipment prior to use at a well.

3.3 Large Equipment Decontamination

Large equipment will be decontaminated between exploration locations as necessary. Drilling rigs, tools, and equipment will be decontaminated by the Drilling Subcontractor before mobilizing to and/or from the site. A decontamination SOP will be obtained from the selected drilling contractor prior to drill operations and will be reviewed.

Piping and submercible pumps used for well development and aquifer testing will be decontaminated with an appropriate Liquinox® and potable water or distilled water mix from a sprayable container, such as a two-gallon hand sprayer. The equipment will then be rinsed with distilled water from a separate similar sprayable container (again, such as a two-gallon hand srayer).

If any of the procedures described in this section are observed to be either inappropriate, inadequate, or impractical, an alternate procedure will be documented in the field logbook, along with a description of the circumstances requiring its use.

3.4 Decontamination Documentation

Field personnel will be responsible for documenting proper sampling and heavy equipment decontamination. The purpose of documentation is to demonstrate in the written field record that decontamination was performed in accordance with this SOP. Decontamination activities will be documented at least each day they are performed. The documentation will be recorded in a logbook or on appropriate project forms (i.e., boring log, sample field data sheets). The information recorded concerning decontamination will include:

- Date and times of decontamination

- Location of decontamination activities (i.e., sample site, central decontamination area)
- Decontamination personnel and materials
- Decontamination steps/observations
- Other applicable information

Standard Operating Procedure No. 06 for Investigation-Derived Waste Management

March 1, 2021

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List of Acronyms and Abbreviations

ARAR(s)	Applicable or relevant and appropriate requirement(s)
CFR	Code of Federal Regulations
DOT	Department of Transportation
IDW	Investigation-derived waste
PPE	Personal protection equipment
QAPP	Quality assurance project plan
SAP	Sampling and analysis plan
SOP	Standard operating procedure
UN	United Nations

1.0 Purpose and Scope

The purpose of this Standard Operating Procedure (SOP) is to ensure that Investigation-Derived Waste (IDW) generated as the result of environmental investigations is managed:

- In a manner consistent with the federal and state applicable or relevant and appropriate requirements (ARARs) to the extent practical;
- To ensure that the potential of further contamination to the site from IDW is eliminated;
- To ensure the quantity of generated IDW is minimized; and
- To provide labeling, tracking, and inventory of IDW.

This SOP applies to all contractor personnel and subcontractors generating, transporting, and handling IDW during environmental investigations and monitoring programs at the project site(s). This SOP describes the minimum acceptable practices.

2.0 Procedure

The IDW generated should be considered part of the site that is being investigated and should be managed with other wastes from the site. The IDW should be managed in a protective manner and should comply with any other federal, state, and site-specific requirements.

2.1 Materials

The following materials may be used to comply with this SOP:

- Ring-top 55-gallon drums (Department of Transportation [DOT]-17-H);
- Drum labels;
- Field supplies such as pallets, Visqueen, rope, drum liners, paint pens, tape, and hand tools;
- Sampling and shipping supplies such as bottles, coolers, plastic bags, labels, tapes, and bubble wrap;
- Health and safety equipment such as personal protective equipment (PPE), first aid supplies from sites and vehicles, and eye wash stations;

2.2 Solid Investigation-Derived Waste

Non-Indigenous Solid IDW such as disposable sampling equipment or tools will be disposed at a licensed landfill. Used PPE such as latex, nitrile, or rubber gloves or booties, and spent respirator filters will be disposed as hazardous, non-hazardous, or radioactive waste in an appropriate designated drum/container/dumpster based on its generation. PPE generated from coming into contact with listed or characteristic hazardous waste will be disposed in a separate drum/container/dumpster designated for hazardous waste and shipped to an approved facility. However, PPE generated during the investigation from non-hazardous waste areas will be placed in a separate container and will be managed as non-hazardous waste.

Indigenous Solid IDW such as any solids generated during an investigation will be collected and placed in appropriate designated drums/containers/dumpsters and manifested off-site for disposal based on its nature and characteristics as either hazardous waste, non-hazardous waste, or a radioactive waste. For solids where nature of contamination is not known, the contractor must first determine whether the waste

is hazardous or non-hazardous using either historical information or sampling. Waste such as drill cuttings, and excess soil samples or other solid media that may be generated, will be stored at the sampling location and/or a designated location at the Site.

2.3 Liquid Investigation-Derived Waste

It is expected that during sampling activities at the Site, liquids will be generated. The liquid IDW generated may include:

- Groundwater from the purging and development of monitoring wells;
- Excess groundwater from passive sampling methods (such as HydraSleeves™); and
- Wastewaters from the decontamination of equipment.

Liquid IDW generated will be characterized to determine types of contaminants present and management process required to handle the waste. Liquid IDW may be combined from several sites if the IDW is determined to be non-hazardous. Historical results may be used to make this determination. The disposal options for liquids will be outlined in the Site-specific sampling and analysis plan (SAP).

2.3.1 Liquid Waste Characterization

If analytical results from liquid samples demonstrate the IDW is non-hazardous but contains constituents at levels above Quality Assurance Project Plan (QAPP) guidelines, the wastes must be containerized and disposed at an appropriate off-site facility.

If the analytical results from liquid samples show the IDW to be hazardous, drummed IDW will be managed and disposed of as a hazardous waste per the Site QAPP.

2.4 IDW Management Procedures

2.4.1 Drum Specifications

The drums to be used for the collection of wastes will be placed in new or reconditioned containers carrying the DOT United Nations (UN) “performance oriented packaging standard” symbol.

Drums should be selected on their ability to hold hazardous, radioactive, and non-hazardous liquids and solids without damage to drum integrity. Special care should be taken in the selection of drums in areas where wastes will be collected and that are known to be reactive, corrosive, or contain organic solvents. The drums will be marked with weatherproof indelible ink showing the sampling location (associated with the waste), and an identification number which will represent the location in the storage building where the drum is housed.

These markings will be located on the top and side of the drum. Each drum will be stored in a manner so that the drum and attached labels can be inspected without moving the drum or surrounding drums.

2.4.2 Waste Tracking Labels

Container labels will be placed on the side and top of each container and will include the following information: Waste tracking number; generator; contents; the estimated depth collected (if solid); date the waste was first put in the container; date the container was closed; estimated quantity; and the name, address, and phone number of an emergency Point of Contact for additional information concerning the containers, and the words “Waste Solids or Waste Liquids”. The drums will comply with DOT regulations outlined in 40 CFR 261.

3.0 References

40 Code of Federal Regulations (CFR) 261, Subpart D.

Appendix C

APS QAPP

Arizona Public Service
Quality Assurance Project Plan

Final

Arizona Public Service Company

Jane Dee Hull
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Stephen A. Owens
Director

Quality Assurance Project Plan Review

(NOTE: This QAPP was reviewed in accordance with the October 1998 *EPA Requirements For Quality Assurance Project Plans (QA/R-5)* .

Project:

DEFICIENCIES (Note: Please see attached pages for a description of the categories of deficiencies checked on the table below)

X	Title & Approval Sheet	X	Analytical Methods
X	Table of Contents	X	Quality Control
X	Distribution List	X	Instrument/Equipment Testing
X	Project/Task Organization	X	Instrument Calibration & Frequency
X	Problem Definition/Background	X	Inspection/Acceptance for Supplies
X	Project/Task Description	X	Data Acquisition (Non-Direct)
X	Data Quality Objectives	X	Data Management
X	Special Training/Certification	X	Assessments & Response Actions
X	Documentation & Records	X	Reports to Management
X	Sampling Process Design	X	Data Review, Validation & Verification
X	Sampling Method	X	Validation and Verification Methods
X	Sample Handling	X	Reconciliation with User Requirements

CONCLUSION / RECOMMENDATION FOR THIS QAPP

	Acceptable		Unacceptable; requires minor revisions		Unacceptable; requires major revisions

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Quality Assurance Project Plan Approvals

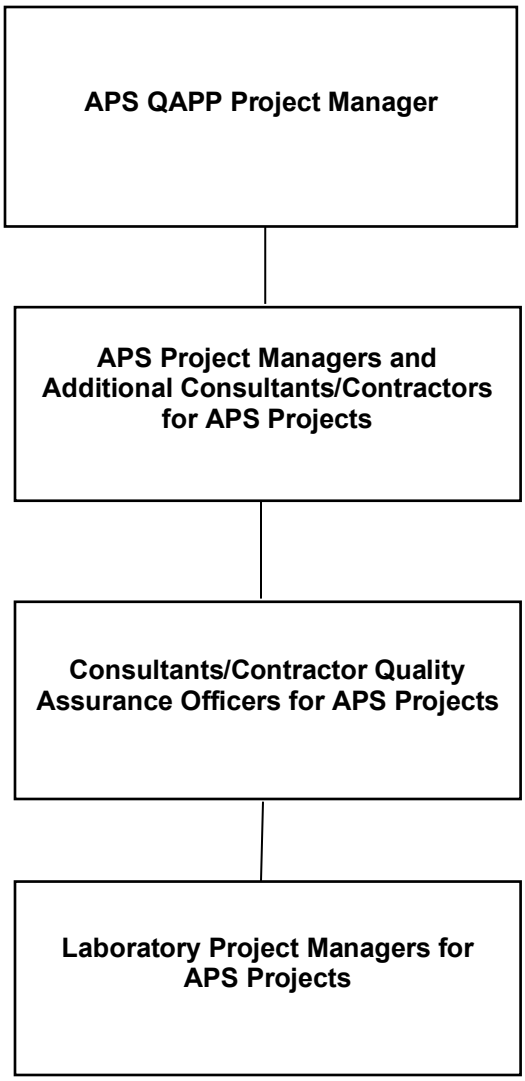
Date:

Lori Zito QAPP Project Manager, APS
Phone No.: 602.250.4709

Date:

Arizona Department of Environmental Quality

Organization Chart



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Acronyms and Abbreviations

%R	percent recovery
°C	degrees Celsius
ADEQ	Arizona Department of Environmental Quality
ADHS	Arizona Department of Health Services
APS	Arizona Public Service
AWQS	Aquifer Water Quality Standard
CA	corrective action
COC	chain of custody
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
GC	gas chromatography
GC/MS	gas chromatography/mass spectrometry
ICP	inductively coupled plasma
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
MDL	method detection limit
MGP	manufactured gas plant
MS	matrix spike
MSD	matrix spike duplicate
PAH	polynuclear aromatic hydrocarbon
QA	quality assurance
QAPP	quality assurance project plan
QC	quality control
RAP	remedial action plan
RL	reporting limit
RPD	relative percent difference
RSL	regional screening level
SAP	sampling and analysis plan
SRL	soil remediation level
SWQS	Surface Water Quality Standard
TCLP	Toxicity Characteristic Leaching Procedure
VOC	volatile organic compound
VRP	Voluntary Remediation Program

1. Introduction

This Quality Assurance Project Plan (QAPP) is intended to serve as a guide to the Arizona Public Service Company (APS), its consultants, and analytical laboratory personnel for sample analysis and laboratory performance evaluations at APS remediation and investigation projects and field operations in Arizona.

Other sites that APS deems appropriate will also be covered by this QAPP. These additional APS sites may include projects that are enrolled, or are anticipated to be enrolled, in the Arizona Department of Environmental Quality (ADEQ) Voluntary Remediation Program (VRP). The current list of APS sites in the ADEQ VRP that are using this QAPP include the following:

- Cholla Power Plant, Joseph City, Arizona

In addition, this QAPP may be used during property assessment investigations associated with real estate transactions, during site investigation activities associated with soil and/or groundwater sampling and analysis, or for routine sampling and analytical purposes associated with ongoing compliance. These activities may occur at any APS location.

This QAPP details specific quality assurance (QA) and quality control (QC) requirements that apply to APS sites. These QA/QC requirements are designed to assist in achieving the project data quality objectives (DQOs) and analytical DQOs for all sampling activities, remedial actions, and periodic groundwater and surface water monitoring that will be performed at APS sites. This document will be used as a foundation from which to build site-specific work plans and remedial action plans (RAPs) that address each phase of work to be performed at the I APS project locations. Note that the term “work plan” not only refers to specific documents of that name, but also to permits and other governing regulatory documents, including, but not limited to, the following:

- Compliance plans and documents, including regulatory guidance documents
- Sample plans

The guidelines for preparing this QAPP are presented in the U.S. Environmental Protection Agency (EPA) document *EPA Requirement for Quality Assurance Project Plans, EPA QA/R-5* (EPA, 2001). The ADEQ QAPP Review Checklist is included in the front of this document.

The purpose of this QAPP is to provide program QA/QC consistency throughout APS site monitoring, investigation, remedial activities, and waste profiling. Additional information on the data quality review process that may be used during data evaluation and assessment is provided in the following documents:

- *Data Quality Assessment: A Reviewer’s Guide (QA/G-9R)* (EPA, 2006a)
- *Data Quality Assessment: Statistical Methods for Practitioners (QA/G-9S)* (EPA, 2006b)
- *Guidance for Data Quality Assessment: Practical Methods for Data Analysis, EPA QA/G-9* (EPA, 2000)

These documents provide guidance for performing the scientific and statistical evaluation of data to ensure the project data objectives of quality and quantity are met to support project needs and their intended use.

This QAPP presents the guidelines for monitoring the performance of the analytical laboratory and is not intended to supersede the laboratory’s QAPP. All project personnel are required to read the QAPP. A copy of the QAPP will be maintained by APS; a hard copy will also be present at the project location if required by the project manager.

A program QAPP is a living document that will be updated as required. Project managers in conjunction with an environmental consulting firm under contract with APS will be responsible for the QAPP updates and ensuring that the QAPP is kept current. Any questions or comments on the QAPP or suggestions for future revisions should be presented to the APS project manager. Amendments to the QAPP will be prepared, as necessary, for ongoing project work. These amendments will be incorporated into the next revision of the QAPP.

2. Project Management

2.1 Project Description

2.1.1 Problem Definition/Background

This section describes the historical background and activities that have been conducted at the APS sites listed in Section 1. Background information about each site, descriptions of the tasks, any problems and their resolution, and decisions to be made can be found in Appendix A, the site-specific work plan or RAP.

The Appendix A form is not required for all projects, but is a tool designed for project managers to use on an as-needed basis so they may document the coverage of their project under this QAPP.

2.1.2 APS Locations

APS sites that will use this QAPP are related to the generation, transmission, and distribution of electricity. These sites include power-generation facilities, substations, service centers, construction yards, and parcels acquired by APS. The QAPP will also be used for other property assessment activities.

A description of project sites using this QAPP is presented in the following documents:

- *Monitor Well Installation and Groundwater Sampling Report, Diesel Fuel Release, Cholla Power Plant, Joseph City, Arizona* (Mogollon Environmental Services LLC, 2005)
- *Groundwater Sampling Report, Diesel Fuel Release, Cholla Power Plant, Joseph City, Arizona* (Mogollon Environmental Services LLC, 2006a)
- *Monitor Well Installation and Groundwater Sampling Work Plan, Well DR-2 VOC Evaluation, Cholla Power Plant, Joseph City, Arizona* (Mogollon Environmental Services LLC, 2006b)
- *Work Plan for Arizona Public Service Cholla Power Plant, Joseph City, Arizona, VRP #090050-00 and 090050-03* (CH2M HILL, 2015)
- *Monitor Well Installation, Soil and Groundwater Sampling Report, APS Four Corners Power Plant Farmington, New Mexico* (Mogollon Environmental Services LLC, 2013)
- *Field Sampling Plan, Garage Fueling Area, Four Corners Power Plant, Arizona Public Service, Farmington, New Mexico* (AECOM, 2015)
- *Groundwater Sampling and Analysis Program, Cholla Power Plant, Joseph City, Arizona* (Montgomery & Associates, 2015)
- Routine compliance monitoring at various APS power generation facilities including Four Corners, Cholla, generation and service sites subject to compliance monitoring obligations. This includes sampling under the Clean Water Act, the Safe Drinking Water Act, and state and federal solid waste and air quality programs.

As additional APS sites using this QAPP are identified, project descriptions and/or applicable document references will be added to Appendix A. Additionally, if new project managers, laboratories, or QA managers are associated with those projects, this information will be included in Appendix A.

2.2 Purpose

The QAPP is intended to provide guidance to field and laboratory personnel for field activities and sample handling activities within the laboratory for each sampling event. The QAPP contains general and specific guidance on sample collection methodology, sample handling, sample containers, and laboratory procedures. The guidelines will be followed by project personnel during each sampling event. This QAPP will be distributed to the project managers and QA officers specified in Section 2.4. Additionally, any

personnel responsible for collecting or reviewing data for the project sites will be provided a copy of this QAPP.

2.3 Scope and Objectives

This QAPP is intended to provide guidance for APS, its consultants, and analytical laboratory personnel associated with remedial actions and investigations at the project sites. This QAPP addresses data collected during soil and water sampling and other applicable activities at APS sites. This QAPP is not intended to replace the laboratory's QAPP. It is intended to provide guidance for field QC collection, method selection, DQOs, and program-specific validation guidelines. All participating parties provided input during the preparation of this QAPP.

2.4 Project Management Responsibilities

This section describes the organizational structure of personnel involved with this program, defines the lines of authority, and identifies key personnel assigned to various program activities. The organization is a hierarchical structure. The project manager for each project location will be the key operational manager for project execution and will be primarily responsible for project plan development and implementation of the project tasks. The QAPP-related tasks for which the consultant and contracted laboratory personnel are responsible are described in the following sections.

2.4.1 QAPP Management

This QAPP governs sampling and analysis performed for regulatory compliance, characterization, or remediation-based purposes. An electronic version of the most current QAPP will be accessible from the APS Corporate Environmental SharePoint site. The QAPP will be updated on an as-needed basis; interim updates may occur by appending information to Appendix A of this document. Project managers are responsible for updating this QAPP if project-specific information is not reflected in the content of this document.

2.4.2 Arizona Public Service Personnel

The APS QAPP Project Manager will be the primary contact at APS regarding the content of this QAPP. The individual project-specific APS project managers will be responsible for coordinating onsite activities described in the various program site-specific work plans and RAPs.

All project-related activities will be managed by an APS project manager. If new projects require an additional APS project manager, the project manager's information will be included in Appendix A. Any recommended updates or revisions to the QAPP should be presented to the APS QAPP Project Manager. A listing of APS project managers is provided in Appendix D, APS Project Contact Information.

2.4.3 Consultants

The consultant for each project will appoint a project manager responsible for overall project implementation. The consultant project manager will have the authority to commit the necessary resources to ensure timely completion of project tasks. The consultant project manager reports directly to the APS project manager and is responsible for reviewing project progress and all documents, plans, and drawings before they are sent to the APS project manager. If additional consultants or project managers are assigned to new projects addressed by this QAPP, the project manager's information will be included in Appendix D.

Each project manager will identify a QA officer for the project. The consultant QA officer will be responsible for oversight of the subcontracted laboratories for all projects contracted to their consulting firm. Other responsibilities for the consultant QA officer may include management of field and laboratory audits, review of field QC sample collection and analytical program designs, validation of field and analytical data, and documentation of the field and analytical results. Additional QA officer contact information will be provided in Appendix D.

2.4.4 Analytical Laboratories

The analytical laboratory project manager will act as the primary liaison to the consultant during implementation of project activities and will be responsible for reviewing the final analytical reports submitted for the project. The analytical laboratory project manager will also be responsible for coordinating with the laboratory QA officer to implement the DQOs established in this program QAPP and will alert the consultant to DQO and method updates before analysis and data submittal. The analytical laboratory project manager is responsible for overseeing the deliverables submitted by laboratories subcontracted by the originating laboratory. A listing of laboratories is located in Appendix D. Note that all laboratories must be certified by the appropriate regulatory authority.

2.5 Project Goals

2.5.1 Quality Objectives and Criteria for Measurement Data

The DQOs for each sampling activity are discussed in the site-specific work plans or RAPs. The DQOs are the basis of design for the data collection plan and, as such, they specify the type, quality, and quantity of data to be collected and how the data are to be used to make the appropriate decisions for the project. The DQOs are developed through a seven-step process, of which each step derives valuable criteria used to establish the final data collection design. The first five steps of the process identify mostly qualitative criteria, such as what problem initiated the project and what issue needs to be resolved. These steps also define the type of data to be collected, where and when the data will be collected, and how the project decision should be made. The sixth step defines quantitative criteria expressed as limits on decision errors that can be tolerated by the decision maker. The final step is the development of the data collection design using the criteria developed in the previous six steps. The final output of the process is a data collection design that meets the qualitative and quantitative needs of the project.

The general regulatory standards that will be applied to the various APS sites are discussed below. The specific regulatory standards, as well as other standards, that will be used at each site will be a function of the site-specific project DQOs. The site-specific work plans or RAPs will specify which standards to use and how to apply the standards to meet the DQOs. If necessary, addendums to this QAPP will be prepared to support the site-specific standards.

2.5.1.1 Arizona Soil Standards

Table 2.1 summarizes the 2007 Soil Remediation Standards and Arizona groundwater protection levels. The Arizona 1996 Soil Remediation Standards were revised and updated in 2007 to be consistent with current scientific data and statutes. The revised rule required the use of 1×10^{-6} excess lifetime cancer risk level for remediation at sites if the current or intended future use is a school or childcare facility where children are reasonably expected to be in frequent and repeated contact with the soil. In addition, the revised rule did not set a single numeric soil remediation level (SRL) value for petroleum hydrocarbons; instead, the revised rule provides for the cleanup of petroleum hydrocarbons by requiring cleanup of all individual petroleum constituents detected in soil that have an SRL (AAC, 2007). These include benzene, toluene, ethylbenzene, and xylenes, and polynuclear aromatic hydrocarbons (PAHs), which are present at some of the APS sites. The sites currently operating under this QAPP are subject to the 2007 SRLs summarized in Table 2.1.

If any of the compounds listed on Table 2.1 have residential SRLs that are lower than the analytical laboratory can reliably achieve, the compound will be evaluated to determine if it is an indicator compound at the specific site. If applicable, alternative analytical methods that can achieve the necessary detection limit will be evaluated.

2.5.1.2 Arizona Groundwater Standards

Groundwater that has been, or has the potential to be, affected by potential contaminants of concern compounds will be monitored by periodic sampling. Any constituents detected in groundwater will be compared with their respective Aquifer Water Quality Standard (AWQS) (AAC, 1994). The AWQS is

presented in Table 2.2. If any of the compounds listed in Table 2.2 have an AWQS that is lower than the analytical laboratory can reliably achieve, the compound will be evaluated to determine if it is an indicator compound at the specific site. If applicable, alternative analytical methods that can achieve the necessary detection limit will be evaluated.

2.5.1.3 Arizona Surface Water Standards

The ADEQ has established numeric water quality standards, hereafter referred to as Arizona's Numeric Surface Water Quality Standards (SWQS), for designated uses of the state's surface waters (AAC, 2016). Surface water sampling will be conducted to evaluate whether target analytes exceed the SWQS listed in Table 2.3. If any of the compounds listed in Table 2.3 have SWQS that are lower than the analytical laboratory can reliably achieve, the compound will be evaluated to determine if it is an indicator compound at the specific site. If applicable, alternative analytical methods that can achieve the necessary detection limit will be evaluated.

2.5.1.4 Waste Determination Standards

Selected samples may be analyzed to determine whether the material is considered a hazardous waste. Table 2.4 provides EPA-established concentrations for leachate for comparison in the Toxicity Characteristic Leaching Procedure (TCLP) analysis. If the concentrations in Table 2.4 are exceeded, the soil would be classified as hazardous waste and/or managed and disposed of as if it were hazardous. Additional information on waste characterization and disposal of waste will be provided in the site-specific work plan or RAP for each project.

2.5.1.5 Air Quality Standards

Air samples may be collected periodically as part of remedial activities. Air monitoring performed for health and safety purposes will be addressed in a site-specific health and safety plan and the site-specific work plan or RAP for each site. Air samples collected in conjunction with remediation system emissions will be compared with permit requirements or the applicable local air quality regulatory requirements. Air samples that are collected for laboratory analysis in conjunction with perimeter monitoring during excavation activities will be compared with the allowable community air monitoring concentrations which will be determined prior to project initiation.

EPA Region 9 Ambient Air Regional Screening Levels (RSLs) are risk-based tools for evaluating and remediating contaminated sites. The EPA RSLs combine the current EPA toxicity values with standard exposure factors to estimate contaminant concentrations in environmental media (that is, soil, air, and water). The EPA RSLs for PAHs and benzene are presented in Table 2.5. EPA has developed factors for additional compounds, and tables for those compounds will be generated on an as-needed basis as part of the project-specific RAP or Work Plan.

The standard EPA RSL concentrations include the residential exposure duration to calculate the maximum allowable concentration, assuming an adult exposure of 26 years for noncarcinogenic inhalation and 70 years for carcinogenic inhalation. To account for exposure scenarios related to limited-duration field activities such as excavation, alternate ambient air RSL concentrations for PAHs have also been determined. To calculate the alternate values, the 1-year maximum allowable concentration is adjusted by multiplying the RSL by 26 (because 1 year is 1/26 of the 26-year exposure). The calculated 4-month and 6-month values are presented in Table 2.5. These alternate RSLs apply to any APS site where the excavation activities will be completed within 1 year.

Because there is no RSL ambient air value for lead, the Occupational Safety and Health Administration Permissible Exposure Level of 0.05 micrograms per cubic meter will be used to evaluate the allowable concentration of lead in the air samples. Air quality samples may be collected periodically in conjunction with projects. For these projects, the work plan will be used as the guidance document to establish applicable DQOs.

2.5.1.6 New Mexico Site Standards

The Four Corners Power Plant project site is located in the Navajo Nation in New Mexico. Therefore, Arizona-specific standards do not apply to activities at this project site. The regulatory standards for the Four Corners Power Plant site for soil, groundwater, and surface water are presented in the following tables:

- Table 2.2, 2009 EPA Maximum Contaminant Levels
- Table 2.6, 2018 EPA Soil Regional Screening Levels
- Table 2.7, 2015 Navajo Nation Surface Water Quality Standards

2.6 Project Documentation

The following is a list of documents that may be relevant to sites undergoing remediation, compliance-based, or characterization sampling:

- Copies of all appropriate permits or compliance plans to complete the scope of work
- Applicable regulatory guidance documents
- Field notebook
- Periodic water level measurement, as and where appropriate
- Field sampling records for perimeter air monitoring and soil and groundwater sampling, where appropriate, including the sample name, sample location, purge logs, and purpose of sample
- Sample chain-of-custody (COC) records from onsite mobile laboratory
- Sample COC records with notation of sample temperature at the time of receipt by laboratory (for samples that are submitted to fixed-base laboratory)
- Final analytical data packages from the analyzing laboratory, completed as required in the site-specific work plan or RAP for the requested data deliverable level, as described in Section 7.3
- Data validation report
- Work plan or RAP, QAPP, and all other site-specific documents, as required

These documents will be included, as appropriate, in the remedial action report following remedial activities or in associated compliance-based reports. These documents will be kept on file by the consultant or APS project manager for the duration of the project. The files will be transferred to the APS project manager at the completion of the project.

2.7 Data Report to the Arizona Department of Environmental Quality

The site-specific work plan, RAP, permit, or equivalent document will specify the reports required by ADEQ or other regulatory agency, the frequency for submission of such reports, and the required information to be included the reports. The length of retention for these reports may vary with the regulatory program. Standard laboratory turnaround times will be used for all analytical data unless specified in the site-specific work plan, RAP, or equivalent document.

2.8 Special Training Requirements and Certification

Special training and certification (for example OSHA HAZWOPER, Air and Soil Vapor Analytical Methods) required for personnel to complete tasks for each project will be identified and described in the site-specific work plan, RAP, or equivalent document. Appropriate personnel will be designated to oversee the implementation and documentation of training and certification.

3. Field Measurement and Data Acquisition

3.1 Analytical Method Requirements

The general categories of data that may be collected include characterization sampling data, field screening data, confirmation data, health and safety monitoring data, and monitoring data for soil, water, soil vapor, and air samples. The QAPP presents a comprehensive list of potential measurements and analyses that could be performed for APS. The methods used are summarized in Tables 3.1, 3.2, and 3.3. Lists of specific methods and analytes for each site will be included in the site-specific work plan, RAP, or equivalent document. The site-specific documents will also address the work schedule, special personnel training and certification requirements, equipment requirements, and assessment techniques to use to ensure procedures are followed. Laboratory personnel must meet the requirements specified for each method used. Contingency plans must be accessible in the laboratory in the event the analytical system fails. The laboratory project manager is responsible for initiating a timely corrective action (CA) and ensuring its effectiveness. Any system failures or deviations from method requirements that have the potential to affect data quality must be properly documented in the case narrative included in the data package.

3.1.1 Soil and Solid Sample Analysis

3.1.1.1 Soil Sample Analyses

At APS sites undergoing soil investigation or remedial activities, additional data will be obtained by submitting soil or solid samples to a laboratory to perform sample analysis. The analytical laboratory will generate quantitative analytical data for soils using the methods presented in Table 3.1 and the DQOs presented in Table 3.4. If additional analytical parameters are required, the consultant will define the parameter DQOs and include the associated DQOs in an addendum to this QAPP.

3.1.2 Water Sample Analyses

Water samples are collected at selected project sites. The analytical laboratory will generate quantitative analytical data for water samples using the methods presented in Table 3.2 and the DQOs presented in Table 3.4. If additional analytical parameters are required, the consultant will define the parameter DQOs and include them in Appendix A to this QAPP.

3.1.3 Air and Soil Vapor Sample Analyses

Air or soil vapor samples are collected periodically as part of characterization or remedial activities at APS sites. The air or soil vapor sample analysis is project specific and the consultant will define the parameter DQOs and include them in an addendum to this QAPP.

3.2 Sampling Design and Procedures

The sampling design for each site is discussed in the site-specific work plan, sample plan, or RAP. The design addresses the number and location of samples, sampling frequency, sample matrices, and measurement parameters of interest for each sample. The rationale for the sampling design is also described in the site-specific work plan or RAP. The sampling design is a function of the medium sampled, information about the sampling site, the type of data to be collected, and how the data are to be used.

The soil and groundwater samples will be collected for each site as described in the applicable work plan or RAP. The site-specific work plan or RAP will describe the sampling procedures and equipment, the sample containers, sample handling and storage, sampling equipment decontamination, and handling of any investigation-derived waste. The work plan or RAP will also discuss CAs to be taken in the event the sampling system fails and include names of individuals responsible for implementing those CAs.

3.3 Sample Handling and Custody

General sample handling and custody procedures are described in the following sections. They may be superseded by procedures specified in site-specific documents. If issues associated with sampling methods or handling are identified, the QA officers and project managers from each consulting firm will be responsible for implementing CAs.

3.3.1 Containers and Preservatives

The contracted laboratories will provide required sample containers for all environmental and associated QC samples. All containers will be certified free of the analytes of concern for this project. No sample containers will be reused. The contracted laboratory will add preservatives, if required, before shipping the sample containers to the project site. The laboratory, upon receipt of the samples, will verify the adequacy of preservation and will add preservative, if necessary. For samples requiring temperature control, samples will be shipped to the laboratory on ice to maintain a temperature of less than 6 degrees Celsius (°C). The containers, minimum sample quantities, required preservatives, and maximum holding times are listed in Tables 3.5 and 3.6.

3.3.2 Chain of Custody

Collecting data of known quality begins at the point of sample collection. Legally defensible data are generated by adhering to proven evidentiary procedures. These procedures are outlined in the following sections and must be followed to preserve and ensure the integrity of all samples from the time of collection through analysis. Sample custody records must be maintained both in the field and in the subcontractor laboratory. A sample is considered to be in someone's custody if it is in his or her physical possession or view, locked up, or kept in a secured and restricted area. Until shipment, the sample team leader is responsible for the sample in custody. COC records document sample collection and shipment to the laboratory. A COC form will be completed for each sampling event. The original copy will be provided to the laboratory with the sample shipping cooler, and a copy will be retained in the field documentation files. The COC form will identify the contents of each shipment and maintain the custodial integrity of the samples. All COC forms will be signed and dated by the responsible sampling team personnel. The "relinquished by" box will be signed by the responsible sampling team personnel, and the date, time, and air bill number will be noted on the COC form. The laboratory will return an electronic executed copy of the COC with the electronic report.

The shipping coolers containing the samples will be sealed with a custody seal any time the coolers are not in an individual's possession or view before shipping. All custody seals will be signed and dated by the responsible sampling team personnel.

At a minimum, the COC form must contain the following information:

- Site name
- Project manager, project chemist, and data manager's names, telephone numbers, and fax numbers
- Unique sample identification
- Date and time of sample collection
- Source of sample, including name, location, sample type, and matrix
- Number of containers
- Designation of matrix spike (MS)/matrix spike duplicate (MSD)
- Preservative used
- Analyses required
- Name of sampler

- Custody transfer signatures and dates and times of sample transfer from the field to transporters and to the laboratories
- Turnaround time
- Laboratory name, address, and contact information
- Any special instructions

Erroneous entries on COC records will be corrected by drawing a single line through the error and entering the corrected information. The person performing the correction will date and initial each change made on the COC form.

3.3.3 Laboratory Responsibilities

When the samples reach the laboratory, they will be checked against information on the COC form for anomalies. The condition, temperature, and appropriate preservation of samples will be checked and documented on the COC form. Checking an aliquot of the sample using pH paper is an acceptable procedure (precautions must be taken to avoid contamination of the sample). Samples requiring volatile organic compound (VOC) analyses should not undergo preservation verification until the time of analysis. The occurrence of any anomalies in the received samples and their resolution will be documented in laboratory records. All sample information will then be entered into a tracking system and assigned unique analytical sample identifiers. A copy of this information will be reviewed by the laboratory for accuracy.

Sample holding time tracking begins with the collection of samples and continues until the analysis is complete. **Samples not analyzed in accordance with the requirements in this QAPP will be resampled and analyzed at no additional cost to APS.** Laboratory analyses will be documented on the COC form. Procedures ensuring internal laboratory COC will also be implemented and documented by the laboratory. Sample custody will be maintained using an internal custody system that requires samples to be kept in a secured and restricted area when not in use and to be checked out and checked back in by the analysts who use the samples. Internal custody records must be maintained by the laboratory as part of the documentation file for each sample. Specific instructions concerning the analysis specified for each sample will be communicated to the analysts. Analytical batches will be created, and laboratory QC samples will be introduced into each batch.

While samples are stored in the laboratory, they will be stored in limited-access, temperature-controlled areas. Refrigerators, coolers, and freezers will be monitored for temperature 7 days a week. Acceptance criterion for the temperatures of the refrigerators and coolers is 4±2°C. Acceptance criterion for the temperatures of the freezers will be less than 0°C. The cold storage areas will be monitored by thermometers that have been calibrated with a National Institute of Standards and Technology-traceable thermometer. As indicated by the findings of the calibration, correction factors will be applied to each thermometer. Records that include acceptance criteria will be maintained. Samples for VOC determination will be stored separately from other samples, standards, and sample extracts. Samples will be stored after analysis until disposed of in accordance with applicable local, state, and federal regulations. Disposal records will be maintained by the laboratory.

Along with sample receipt documentation, the following information will be documented on sample receipt forms by the sample custodian:

- Date samples received
- Field sample identification number
- Laboratory sample identification number
- Analytical tests requested for the sample batch
- Sample matrix
- Number of samples in the batch
- Container description
- Verification of sample preservation

The laboratory should have a system and procedures for maintaining sample control and custody when the samples are received.

3.3.4 Sample Packaging and Transport

3.3.4.1 Sample Container Preparation

- Labels will be secured to each container with clear tape, if not previously done. For pre-weighed soil VOC containers, containers will be placed in baggies, and labels will be placed on the baggies.
- Container lids will be checked for tightness, and if the container is not full, the outside of the container will be marked with indelible ink at the sample volume level.
- Sample bottles will be double-bagged in heavy-duty plastic, when appropriate. Glass containers will be covered with bubble wrap to prevent breakage.

3.3.4.2 Shipping Cooler Preparation

- All previous labels used on the shipping cooler will be removed.
- Drain plugs will be sealed with fiberglass tape (outside and inside) to prevent melting ice from leaking.
- A cushioning layer of packing material such as bubble wrap will be placed at the bottom of the cooler (approximately 1-inch thick) to prevent breakage during shipment, when appropriate.
- Cooler will be lined with a large plastic bag (same type used to contain samples), when appropriate.
- All ice will be double-bagged in a resealable plastic bag, when appropriate.

3.3.4.3 Placing Samples in the Cooler

- The COC form will be placed in a resealable plastic bag.
- Samples will be placed in an upright position in the cooler.
- Ice will be placed on top of, and between, samples. Ideally, ice will be double-bagged in resealable plastic bags to minimize leakage of ice melt into the cooler.
- Void space between samples will be filled with packing material.

3.3.4.4 Closing the Cooler

- The cooler lid will be taped with strapping tape, encircling the cooler several times, when appropriate.
- Custody seals may also be affixed to the cooler lid to ensure the integrity of the samples.

3.3.4.5 Transport

- Sample coolers will be transported to the laboratory (an overnight courier may be used) immediately after sample collection, as required and as logistics allow. Intermediate stops will be avoided, with the exception of emergencies only, in which case the situation will be noted in the field notebooks.
- If prudent, the laboratory will be notified that samples are being shipped.

3.4 Measurement Performance Criteria

The reporting limit (RL) is the lowest concentration of a specific analyte that can be reasonably achieved within the specified limits of precision and accuracy during routine laboratory operations. Analytes that have a concentration greater than or equal to its respective RL will be reported. The RLs for the laboratories are presented in Tables 3.4 through 3.6. If facility permit limits are lower than the RL provided in the tables, actual laboratory detection and RLs that are capable of demonstrating compliance with the permit will be used.

Soil samples collected for VOC analyses (EPA Method 8260B) will be field-preserved with methanol, or subcored using an EnCore or equivalent sampler, and preserved with methanol in the laboratory within

48 hours of collection (EPA Method 5035). The methanol preservation requires a 50-times dilution before sample analysis, resulting in elevated RLs for all target analytes. The RLs presented in Table 3.4 reflect the elevated values.

3.5 Field Quality Control Sampling

QC samples will be collected in the field to evaluate sample collection and laboratory precision (field duplicates), the effectiveness of sampling equipment decontamination (equipment blanks and field blanks), and sample shipping procedures (trip blanks and temperature blanks). A general description of the required QC samples is presented below along with recommended minimum sampling frequencies. The sampling plan should be flexible enough to allow the collection of field QC samples at lesser or greater frequencies based on the data collected over time. For example, if equipment blank results have repeatedly demonstrated effectiveness of the equipment decontamination procedure, relaxing the frequency of equipment blank collection will not likely compromise data quality. Likewise, unnecessary expense can be avoided by minimizing the frequency of field duplicates when data from an ongoing water monitoring program have continually indicated non-detection of the constituents of concern. Specific field QC sampling requirements, including frequency of collection, will be addressed in site-specific work plans or RAPs.

- **Field Blanks**. Field blanks are samples containing analyte-free water and are collected and processed in the same manner as equivalent environmental samples (that is, clean water is poured directly into a sample container in the same physical location where the environmental sample is collected and is subsequently handled, processed, and analyzed exactly as an equivalent environmental sample). The field blank is used to identify contamination resulting from field sample collection techniques. Sampling procedures that do not involve the likelihood of contamination from field conditions do not require the collection of field blanks. The source of water used for field and equipment blanks will be identified in the field sampling logs or field notes. Field blanks will be designated per designation stated in site-specific field sampling plan and analyzed for the identical parameter set as the field samples.
- **Equipment Blanks.** At a minimum, one equipment blank will be collected before sampling during each sampling event where decontamination of sampling equipment is required. Should the specific methodology for collecting the equipment blank vary from this document, the procedure will be detailed in the site specific sampling and analysis plan (SAP) or RAP. (Note: A specific case where decontamination may not be required would include groundwater sampling with dedicated or disposable tubing.) The equipment blank samples will be collected by pouring distilled or deionized water through sampling equipment, such as a split-spoon sampler or a hand sampler containing brass sleeve inserts, or a submersible groundwater sampling pump, into the appropriate sample bottles. The equipment blank will be designated per the site-specific field sampling plan and analyzed for the identical parameter set as the field samples.
- **Trip Blanks.** Trip blanks will be provided by the fixed-base laboratory and will accompany each sample cooler containing VOCs (EPA Method 8021B, 601/602 and 8260B) and total petroleum hydrocarbon as gasoline (EPA Method 8015D and Arizona Department of Health Services [ADHS] 8015 AZR1 Appendix 1). Trip blanks will be prepared in a clean environment and will consist of organic-free water submitted during groundwater and surface water sampling, and purge and trap grade methanol submitted during soil sampling. The trip blanks will be transported to the sampling site, handled as an environmental sample, and returned to the laboratory for analysis. Trip blanks will be analyzed for the same volatile constituents as requested for the field samples.
- **Temperature Blanks.** Temperature blanks will be provided by the laboratory or made in the field by the field personnel and will accompany each sample cooler. The temperature blanks will be used to evaluate the temperature of the samples that were stored in the cooler between sample collection and delivery to the laboratory. The temperature of the blanks will be measured upon receipt of the sample cooler at the laboratory and the temperature will be noted on the COC form. If temperature blanks are not used, the laboratory may measure the temperature of the sample bottles upon receipt of the samples.
- **Field Duplicates.** Blind field duplicate samples will be collected at a minimum frequency of 1 duplicate sample per sampling event or a minimum of 1 per 10 samples (10%) to assess field

precision unless otherwise specified in the site-specific work plan or RAP. The blind duplicate will be collected from a sample point most likely to contain elevated concentrations of the constituents of concern. Duplicate subsurface soil samples will be collected from a second brass sleeve insert within the split-spoon sampler. Duplicate surface soil samples will be collected from a location adjacent to the original sample location. Duplicate groundwater samples will be collected at the same time the primary sample is collected. Field duplicate samples will be analyzed for parameters of concern specified in the site-specific work plan or RAP. Specific labeling designation will be outlined in the site-specific work plan or RAP. Field duplicates may be omitted depending on the final use of the data if approved by the project manager.

- **MS/MSD Samples.** MS/MSD samples, or enough sample volume to perform MS/MSD analyses, will be collected to evaluate the effect of the sample matrix on the analytical method. The MS/MSD samples will be collected at the same time as the primary sample and should be collected from a sampling location not likely to contain elevated concentrations of the constituents of concern. Equipment, field, and trip blanks must not be assigned for MS/MSD analysis. Additional sample volume will be collected for MS/MSD analysis from an APS field sample location during confirmation sampling, compliance sampling, or sampling events for site closure. MS/MSD samples will be collected at a frequency of 1 pair per sample batch or at least 1 per 20 samples during each sampling events. In addition, MS/MSD samples may also be collected during routine sampling events on an as-needed basis. MS/MSD samples will be analyzed for parameters of concern specified in the site-specific work plan or RAP. For smaller projects, using the laboratory's MS/MSD may be appropriate.

4. Instrument Calibration and Frequency

4.1 Field Instrument Calibration

Field equipment will be calibrated before the start of work and bump tested at the end of the sampling day. Any instrument drift from before calibration will be recorded in the field notebook. Calibration will be performed according to procedures and schedules outlined in the particular instrument's operations manual and information in the site-specific closure plan or equivalent document. Calibrated equipment will be uniquely identified by using either the manufacturer's serial number or other types of identification. A label with the identification number and the date when the next calibration is due will be placed on the equipment. If this is not possible, records traceable to the equipment (for example, showing the equipment identification) will be readily available for reference. In addition, the results of calibrations and records of repairs will be recorded in the field notebook. Scheduled periodic calibration of testing equipment does not relieve field personnel of the responsibility of using properly functioning equipment. If an individual suspects an equipment malfunction, the equipment will be removed from service, tagged so that it is not inadvertently used, and the appropriate personnel will be notified so that a recalibration can be performed or substitute equipment can be obtained.

Equipment that fails calibration or becomes inoperable during use will be removed from service and either segregated to prevent inadvertent use or tagged to indicate that it is out of calibration. Such equipment will be repaired and satisfactorily recalibrated. Equipment that cannot be repaired will be replaced.

4.2 Laboratory Instrument Calibration

Qualified personnel will appropriately calibrate laboratory instruments before sample analysis. The requirements specified in each analytical method will be followed. Only certified standards of known purity may be used for calibration. Calibration will be verified at specified intervals throughout the analysis. Calibration records will become part of the analytical documentation. The frequency and acceptance criteria for calibration are specified for each instrument type and analytical method in Tables 4.1 through 4.16. When multipoint calibration is specified, the concentrations of the calibration standards should bracket those expected in the samples. Samples must be diluted, if necessary, to bring analyte responses within the calibration range. The laboratory may report only those data that result from quantitation within the demonstrated working calibration range. Quantitation based on extrapolation is not acceptable.

5. Instrument and Equipment Testing, Inspection, and Maintenance

The field instruments that will be used at each site will be identified in the site-specific work plan or RAP. The document should include procedures for inspecting and testing these instruments. The procedures should also discuss preventive and corrective maintenance to ensure the instruments' availability and performance at all times.

The contracted laboratories must have procedures in place to ensure that all analytical instrumentation is maintained according to the manufacturer's recommendations. Critical spare parts must be available onsite to minimize downtime. All maintenance activities must be documented in the field logbook.

6. Requirements for Supplies and Consumables

Standard materials and reagents must be of known high purity and traceable to an approved source. Pure standards must not exceed the manufacturer's expiration date and must be stored according to the manufacturer's recommendations or method requirements. Each laboratory must assign an expiration date to each solution prepared from the pure standards and the solutions must be used within the expiration date. All other supplies and consumables must be inspected before use to ensure they meet purity standards based on their intended use. The laboratory's inventory and storage system should ensure their use within the manufacturer's expiration date and storage under proper conditions.

The designated contracted laboratory project manager will have the responsibility for meeting the requirements in this section.

7. Analytical Data Quality Assessment

This section presents the established procedures and criteria for assuring data quality and consistency for laboratory QA/QC, laboratory reporting, data evaluation, and database management. This is of particular importance when using more than one analytical laboratory. The analytical DQOs discussed in the following sections will provide guidance for the consultant project manager, the consultant QA officer, and the analytical laboratory personnel.

7.1 Analytical Data Quality Objectives

Analytical DQOs, at a minimum, are used as the basis for data quality assessment. The DQOs are precision, accuracy, representativeness, completeness, and comparability. These qualitative and quantitative objectives ensure the data generated during these investigations are scientifically valid, defensible, and meet the needs of each project. As discussed in *EPA Guidance for the Data Quality Objectives Process, EPA QA/G-4* (EPA, 2006c) and *EPA Requirements for Quality Assurance Project Plans, EPA QA/G-5* (EPA, 2001), the DQOs depend on the intended data usage and are based on the premise that the ultimate use(s) of a particular data set should determine the quantity and quality of these data. A summary of the APS program-specific analytical DQOs for soil, aqueous, air, and soil vapor matrixes are presented in Tables 3.4, 3.5, and 3.6. The precision and accuracy limits for spiked target analytes are to be applied to both laboratory control samples (LCSs) and MSs, unless otherwise specified in the tables.

Precision is a measure of the reproducibility of concentrations reported for duplicate analyses, calculated by determining the relative percent difference (RPD) between the two values. Precision will be reviewed for the following analysis: LCS/laboratory control sample duplicate (LCSD), MS/MSD, laboratory and field duplicate (soil or groundwater samples collected from the same location). The proposed precision objectives for field duplicates are specified in Section 7.4.2.4. Precision objectives for LCS/LCSD and MS/MSD are presented in Tables 3.4 through 3.6.

RPD is calculated as follows:

$$RPD = \frac{D_1 - D_2}{(D_1 + D_2)/2} \cdot 100$$

Where:

D_1 = MS (or LCS) sample concentration
D_2 = MSD (or LCSD) sample concentration

When the RPD between duplicate sample results is calculated, D_1 and D_2 represent the original and duplicate sample concentrations.

Accuracy is the degree to which the measurement data approaches the true value for each analyte. For soil samples, accuracy is assessed by calculating the percent recovery (%R) for a sample spiked with the analyte of concern (for example, LCS, surrogates, or matrix spike). For soil, water, soil gas, and air samples, the accuracy objectives are in Tables 3.4 through 3.6.

%R is calculated as follows:

$$\%R = (Q_d / Q_a) \cdot 100$$

Where:

Q_d = Spiked sample concentration minus unspiked sample concentration
Q_a = True value of the spike

Representativeness refers to the comparability of the sample collection procedures to those delineated in the SAP or RAP and the degree to which the analytical data represent the subsurface contaminant concentrations. Representativeness will be accomplished by adhering to consistent field sampling and analytical procedures for soil samples.

Completeness is defined as the ratio of usable (that is, non-rejected) laboratory measurements to the total number of planned measurements for this investigation.

It is calculated as follows:

$$\text{Percent Completeness} = \frac{\text{Number of Usable Results (that is, non-rejected results)}}{\text{Total Number of Possible Results}} \times 100$$

Comparability is an evaluation of the relative consistency of the laboratory measurement data. Because comparability cannot be measured quantitatively, professional judgment is relied upon. Internal comparability will be achieved for soil by adhering to consistent sample collection procedures and analyses methods throughout each investigation.

7.2 Laboratory Quality Assurance/Quality Control Procedures

QA/QC procedures will be implemented using methods that ensure each project's data needs for precision, accuracy, representativeness, completeness, and comparability are met. Based on these QA/QC objectives, sample analyses will be completed in accordance with EPA-approved methodologies. Laboratory variances to the QA/QC procedures outlined in this QAPP are included in Appendix E.

A preparation batch is a group of samples (not to exceed 20 samples) similar in composition (matrix) and extracted or digested at the same time with the same lot of reagents. The laboratory QC samples will not count as a part of the 20 samples but will be prepared with each preparation batch. The QC samples will also be employed for samples that do not need separate extraction or digestion, such as VOC analysis by purge and trap.

The laboratory will use QC samples to assess the validity of the analytical results of field samples following the method requirements. The laboratory QC samples will include method blank, LCS, surrogate spikes, MS/MSD (or laboratory duplicate), and all method-specific QC samples. When the acceptance criteria established for the QC samples are not met, the affected sample results are qualified using the Arizona Laboratory Data Qualifiers in Appendix B. The following paragraphs describe the types of laboratory QC samples and/or tests that should be performed to assess the validity of the analytical results of the field samples:

- A method blank is an analyte-free matrix similar to the field samples (solid or liquid), in which all of the reagents are added in the same proportion or concentration as used to process the field samples. Method blank analysis is performed to assess possible laboratory contamination per analytical or preparatory batch, for each method of analysis and at a frequency of at least 1 per 20 samples analyzed. If concentrations of constituents of concern are found to be greater than the RL in the method blank, CA will be performed to identify and eliminate the source of contamination before proceeding with the analyses. The analytical data will not be corrected based on the presence of an analyte in the method blank, and CA is not necessary if the analyte is detected in the method blank but not in the sample. If an analyte continues to be found in the method blank and in the sample, and CAs are not implemented, the affected result will be flagged with the appropriate qualifier.
- The LCS or blank spikes are analyte-free samples, either water or Ottawa sand, which are spiked with a known concentration of specific analytes. The spiking standard must be from a source independent of that used for calibration standards. The LCS is used to evaluate each preparation batch and assess the statistical control of the method at a frequency of at least 1 per 20 samples. CA will be implemented if the LCS is found to be outside the recovery acceptance limits.

- Surrogate spike analysis is used to evaluate the efficiency of the analytical procedure in recovering the true amount of a known compound. The surrogates are organic compounds similar to the target analyte(s) in chemical composition and behavior in the analytical process but do not normally occur in environmental samples. Surrogate spikes are added to all samples, including QC samples. Percent recovery values are provided along with the sample results. CA will be implemented if the surrogate recovery is found to be outside acceptable limits, and the sample will be prepared and analyzed again. If the surrogate continues to be found outside the acceptable QC limits, the affected result will be flagged with the appropriate qualifier.
- MS/MSD samples are used to evaluate the effect of the sample matrix on the analytical method. The spiking standard must be from a source independent of that used for calibration standards. MS/MSD samples are analyzed at a frequency of 1 pair per sample batch or at least 1 pair per 20 samples. The MS/MSD sample analysis will be performed on an APS project sample. Samples designated as field blanks, equipment blanks, and trip blanks must not be used for MS/MSD analyses. The MS/MSD is intended to evaluate the matrix effect on the instrument, not to control the analytical process. If the MS/ MSD is found to be outside the acceptable QC limits, the affected result will be flagged with the appropriate qualifier. Tables 7.1 and 7.2 present the flagging conventions for organic and inorganic analytical methods, respectively.
- A sample duplicate selected by the laboratory is called a laboratory sample duplicate. It is subjected to the same preparation and analytical procedures as the native sample. The RPD between the results of the original sample and laboratory sample duplicate measures the precision of sample results. The data collected could also yield information regarding the homogeneity of the sample matrix. A laboratory duplicate will be analyzed with each analytical batch that does not contain an MS/MSD or LCS/LCSD, or when the analytical method requires it.
- Some methods, such as those for VOCs, require the use of internal standards to compensate for losses during injection or purging. Internal standards are compounds that have similar properties as the analytes of interest but are not expected to occur naturally in the samples. A measured amount of the internal standard is added to the standards, samples, and QC samples following preparation. When the internal standard results are outside the control limits, CA must be taken, including sample re-extraction and reanalysis, if appropriate.
- Retention time windows for gas chromatography (GC) and ion chromatography analyses must be established by replicate injections of the calibration standard over multiple days. The absolute retention time of the calibration verification standard at the start of each analytical sequence will be used as the centerline of the window. For a target analyte to be reported as positive, its elution time must be within the retention time window.
- The interference check samples are used in inductively coupled plasma (ICP) analyses to verify background and inter-element correction factors. They consist of two solutions: A and B. Solution A contains the interfering analytes, and Solution B contains both the analytes of interest and the interfering analytes. Both solutions are analyzed at the beginning of each analytical sequence. When the interference check samples results are outside the control limits, CA must be taken, including sample reanalysis, if appropriate.
- The dilution test in metals analysis consists of analyzing a 1:10 dilution of a sample. The results of the 1:10 dilution are compared with the original sample results. When the original sample concentration is sufficiently high (at least 50 times the method detection limit [MDL]) for ICP, the result of the 1:10 dilution should agree within ±10 percent of the original sample result. If this criterion is not met, chemical or physical interferences may be indicated for that particular sample matrix.
- When the metal analyte concentrations are not sufficiently high to perform the dilution test, or when the dilution test results are not acceptable, a post-digestion spike analysis (also called recovery test) should be performed. This analysis consists of adding an analyte spike to an aliquot of the prepared sample. The spike addition should result in 2 to 5 times the original sample concentration, or 10 to 20 times the MDL. If the spike is not recovered within the acceptable range, a matrix effect should be suspected.

7.3 Quality Assurance/Quality Control Data Packages

Data package documentation will follow the requirements specified by the APS laboratory contract and site-specific needs. Three levels of data deliverables are detailed below. The level of deliverables required for a specific project will depend on the extent of the data evaluation effort specified for the project. The deliverables will consist primarily of summary forms in EPA Contract Laboratory Program-like format, containing the information specified for each level. In addition, Level IV deliverables will also include all raw data. Regardless of the level of deliverables requested, the laboratory must maintain all required documentation associated with each data acquisition to allow re-creation of the sample preparation and analysis and submittal of more extensive deliverables upon request for specific sample delivery groups. In addition to hard copy, electronic deliverables will be expected for each level of documentation.

It is important that the APS project manager identify the data deliverable package (i.e., Level II, Level III or Level IV) at the time their samples are submitted to the laboratory. If a package other than a Level II package is required, it should be noted in the SAP or RAP. APS typically requires a Level II data package; if a different data package is required, it will be noted in the site-specific project SAP or RAP. Level I packages are summaries of results; no QC or COC information is included, so Level 1 packages are not required for APS projects.

7.3.1 Level II Data Deliverables

Examples of use of Level II data documentation would be for data generated by the mobile laboratory, and analytical data generated by a fixed-base laboratory for continued surface and groundwater monitoring. Data for these examples are usually used for screening or for recurrent monitoring multiple times each year. Level II documentation will include the following information:

- Case narrative addressing any QC deficiencies associated with the data set in the associated report and providing a cross-reference field and laboratory sample identification
- Analytical results for each parameter requested
- Laboratory-established precision and accuracy limits
- Dates of sample collection, preparation, and analysis
- Method blank (matrix-specific) results
- LCS recoveries
- MS/MSD recoveries (or laboratory duplicate results), and calculated RPDs
- Surrogate recoveries

7.3.2 Level III Data Deliverables

Level III data documentation will be requested according to site-specific needs and mostly applies to data collected during confirmation sampling, compliance sampling, and closure sampling. Data documentation for Level III reports will include the following information:

- Case narrative addressing any QC deficiencies associated with the data set in the associated report and providing a cross-reference field and laboratory sample identification
- Analytical results for each parameter requested
- Laboratory-established precision and accuracy limits
- Dates of sample collection, preparation, and analysis
- Extraction logs, including methanol preservation logs (sample weight/extraction volume)
- Instrument run logs
- Method blank (matrix-specific) results

- Calibration blank results for inorganic analyses
- LCS recoveries
- MS/MSD recoveries and calculated RPDs (or results and percent differences for laboratory duplicates); provide concentrations of all spike solutions
- Serial dilution results and percent differences for inorganic compounds (if applicable)
- Analytical spike recoveries for graphite furnace atomic absorption
- Surrogate recoveries
- Initial and continuing calibration data summaries, including response factors, average response factors, percent relative standard deviations (or regression equations and correlation coefficients), response factors, percent recoveries, percent differences, or percent drifts
- Interference check standard recoveries for ICP
- Method of standard addition results (if applicable)
- Tuning summary, including ion abundances and acceptance criteria (if applicable)
- Internal standard summary showing areas and retention times, or recoveries (if applicable)
- Retention times and windows for chromatography methods
- Pesticide breakdown products for pesticides analysis by GC
- Confirmation results and RPDs for chromatography methods
- Analytical sequence log, including analysis dates and times
- All other method-specific QCs

7.3.3 Level IV Data Deliverables

Level IV deliverables will enable full data validation when required by the project. The deliverables will include all items listed under Level III and the raw data. The laboratory will be contacted in advance when Level IV deliverables are required for a subset of data. Data documentation for Level IV reports will include the following information:

- Raw data
  - Organic compounds—chromatograms and quantitation reports for all standards, samples, and QC samples; and sample and reference spectra for gas chromatography/mass spectrometry (GC/MS)
  - Inorganic compounds (metals or wet chemistry)—instrument printouts for standards, samples, and QC samples, and analytical worksheets where printouts are not available
- MDL studies for all analytes
- Before and after blowups of all manual integrations that have been performed

7.4 Data Validation

The effectiveness of the implementation of the QAPP and the QA/QC procedures will be assessed at various times during each project to ensure that the data needs of each project continue to be met. This evaluation will include conducting data quality assessments on the data as they are received. If the data fall outside the parameters of the DQOs, additional assessments and CAs will be taken. The additional assessments may include a review of the sampling method, sample handling and storage methods, a laboratory audit, a review of the laboratory management system, and/or a performance evaluation.

7.4.1 Data Quality Assessment by the Laboratory

The laboratory personnel should conduct an initial quality assessment of the data to ensure that the analytical DQOs are achieved. The assessment will include ensuring that the sample preparation and analyses were performed within the specified holding times for each analysis, identifying any source of contamination, and performing a review for both internal laboratory QC and the APS program DQOs. The laboratory personnel will note any QC deficiencies in the final laboratory report.

Hold time criteria begin at the time of sample collection. To remain in compliance with each analytical method, the sample extraction or preparation process must be completed as described by each analytical method before any necessary extract cleanup or volume reduction procedures and must be completed within the specified timeframe as presented in Tables 3.5 and 3.6. The analysis is considered finished when all analytical runs, including dilutions and any required re-analyses, are completed.

7.4.2 Third-party Data Quality Evaluation

Data evaluation will be performed by the QA Officer, a qualified chemist, or data validation consultant as prescribed for each site-specific program. The evaluation will consist of a review of the supplied data documentation to determine whether the data satisfy the project's DQOs and the data use requirements.

The data evaluation strategies can range from a verification of the batch-related QC performance using summary reports to a validation of the complete analytical run using raw data. The level of effort for data evaluation will be a function of the project's DQOs, familiarity with the laboratory's data quality, analytical techniques employed, nature of the contamination and sample matrix, historical information about the investigation site, and budget and time constraints. For example, definitive data will require a much higher level of effort than screening data. A higher level of effort is usually required when using a laboratory that has not had any experience with the project, or when a site with no historical information is being investigated. Data generated using analytical techniques that require a significant amount of analyst interpretation (such as gas and liquid chromatographies) will require more intense evaluation than those generated using more specific instrumentation (such as ICP and GC/MS). This applies to samples that could have significantly high interfering background. For example, a review of batch-related QC alone would be inadequate for identifying data quality problems when measuring low-level PAHs in samples with high background petroleum fuel contamination.

Three levels of data evaluation are presented in this QAPP. These levels collectively encompass the checks recommended by EPA in its data verification and data validation checklists found at its website and included in Appendix C. The data evaluation strategy can be limited to one level or can be a combination of two or more levels for pre-determined subsets of data. Full data validation can be focused on data subsets expected to be most complicated or problematic. The strategy should be flexible enough to allow switching to a lower or higher level of effort based on the findings from the initial evaluation. The data evaluation strategy for each project must be addressed in the site-specific QAPP or equivalent document.

The data evaluation at each level will be limited to the data provided at the corresponding level of deliverables. The data will be reviewed and evaluated according to the criteria established in this QAPP and summarized in Tables 4.1 through 4.16. In the case of parameters for which no criteria have been established in this QAPP, the laboratory's control limits will be used.

Issues requiring resolution will be brought to the laboratory project manager's attention by the data QA Manager or designee.

Data qualification will be documented in the validation reports and in the database for access by the data users. Professional judgment assessments will be clearly documented in the data validation reports.

7.4.2.1 Level II Quality Evaluation

Only batch-related QC will be evaluated at this level. Instrument performance will be assumed to be in-control or out-of-control in a manner that is consistent with the batch-related QC performance.

The following will be evaluated using the summary reports in the data package:

- Case narrative
- Holding time
- Method blank results
- Sample results and RLs
- Field duplicate results
- MS/MSD recoveries and RPDs
- Laboratory duplicate percent differences
- LCS recoveries
- Surrogate recoveries

7.4.2.2 Level III Quality Evaluation

Data evaluation at this level will include batch-related QC, as well as calibration and other instrument QC performance.

The following will be evaluated using the summary reports in the data package:

- Case narrative
- Holding time
- Method blank results
- Calibration blank results for inorganic analyses
- Sample results and RLs
- Field duplicate results
- MS/MSD recoveries and RPDs (or results and percent differences for laboratory duplicates)
- LCS recoveries
- Serial dilution results and percent differences for inorganic compounds (if applicable)
- Analytical spike recoveries for graphite furnace atomic absorption
- Surrogate recoveries
- Initial and continuing calibration results
- Interference check standard recoveries for ICP
- Method of standard addition results (if applicable)
- Tuning results (GC/MS only)
- Internal standard results (if applicable)
- Retention times and windows for chromatography methods
- Pesticide breakdown products for pesticides analysis by GC
- Confirmation results and RPDs for chromatography methods

- Analytical sequence log, including analysis dates and times
- All other method-specific QCs

7.4.2.3 Level IV Quality Evaluation

This level validates the performance of the analytical methodology specific to the samples analyzed to the level of the raw data.

All the items evaluated under Level III will be evaluated. The accuracy of a representative amount of raw data, including sample identification and quantitation, will be verified.

7.4.2.4 Primary and Field Duplicate Comparisons

The validator will compare primary and field duplicate sample analysis results to evaluate whether the precision criteria for each analyte have been achieved. This evaluation will be accomplished by comparing the results with the following criteria:

- A control limit of ±20% for water, ±35% for soil, and ±40% for air for the RPD should be used when both the sample and field duplicate results are greater than, or equal to, 5 times the RL.
- A control limit of ±RL for water and ±2 times the RL for soil should be used when at least one of the results is less than 5 times the RL.

Data qualifier codes will be assigned based on the results of this comparison. If the primary and field duplicate results do not meet the applicable criteria listed below, the results for both the primary and field duplicate samples for that analyte will be qualified as estimated (UJ or J).

7.4.2.5 Evaluations of Detections in Blanks

When an analyte has been detected in a blank sample at a concentration above the RLs (or above the MDL but below the RL), the associated sample data must be assessed to evaluate the impact of the blank contamination. Blank contamination will be evaluated using the 5 times rule or the 10 times rule. The 5 times rule is applied to blank samples that are affected by compounds that are not considered to be common laboratory contaminants. The 10 times rule is applied to the following compounds recognized by EPA as common laboratory contaminants: acetone, 2-butanone, methylene chloride, and each of the common phthalate contaminants. The 10 times rule may also be applied to additional contaminants that are shown to be specific to a particular laboratory. In cases where a field sample requires dilution, the 5 times or 10 times blank detection rule will be evaluated against the field sample concentration before adjustment for dilution. Values determined to be less than the blank concentration will be qualified as "U/Not Detected."

7.4.3 Split Sampling as an Acceptable Alternative to Performing Data Validation

In the absence of performing data validation (which can be cost prohibitive for small numbers of samples analyzed), a percentage of split samples can be collected and analyzed at another laboratory to confirm accuracy. However, this method should be approved by ADEQ in advance to ensure that project requirements can still be achieved. The decision to allow split sampling as an alternative to data validation must be made on a case-by-case basis. ADEQ stresses that analyzing split samples should not be viewed as an equivalent substitution for performing data validation. There are, however, conceivably various sites in which the DQOs would not be seriously compromised if split samples were analyzed either in lieu of, or in conjunction with, performing data validation. As the number of samples collected increases, the rationale for analyzing split samples as an alternative to performing data validation must also become more compelling. With prior approval from ADEQ, the QAPP must document the number of samples to be collected and the percentage of split samples anticipated for the project. State the rationale if the percentage of split samples recommended differs from the number of samples collected. Recommended percentages are as follows:

- 1 to 10 samples collected, use 100% splits

- 11 to 20 samples collected, use 50% splits
- 21 to 35 samples collected, use 35% splits
- 36 to 50 samples collected, use 25% splits

7.4.4 Corrective Action

Problems identified by the analytical laboratory or data evaluator requiring CA in the laboratory will be documented in a CA report. If a CA form is necessary, a laboratory-signed CA will be placed in the associated analytical data package and the validator will document the CA issue in the final validation report. Depending on the significance of the problem, CAs may include reanalysis of the affected sample, re-sampling and analysis, or a change in procedure or analytical method.

7.4.5 Data Management

Data from all phases of the data collection effort will be stored in a relational project repository database for each site. The database structure must accommodate all matrices, laboratory data qualifiers, and data validation qualifiers. The project database structure established for each site should adequately meet the minimum ADEQ requirements.

Field measurements are collected and catalogued for loading into the database. The analytical data will be submitted as electronic data deliverables and delivered to the data manager in the agreed-upon format. The hard copy and electronic data are entered into their respective physical and electronic placeholders and are tracked, imported, and catalogued, as appropriate. The electronic data are checked for completeness and consistency with the hard copy. Manual or semi-automated data validation is performed using hard copy and electronic data, and all flags and findings are recorded electronically. Data may be exported to one or more exterior applications for generating summary statistics, required electronic deliverables, or reports.

8. Assessments and Response Actions

Assessment activities consist of laboratory technical systems audits and data quality audits.

Laboratory technical systems audits may be performed to evaluate a laboratory before contract award or to provide surveillance once the contract has been awarded. In pre-award audits, the laboratory's capabilities will be evaluated against the project's requirements. Surveillance audits will focus on the laboratory's continued compliance with project requirements. These audits will be unannounced and performed at random frequencies, depending on the laboratory's performance.

Data quality audits will take the form of the data quality evaluation discussed in Section 7.4. A surveillance audit of the laboratory may be performed as a consequence of the data quality audit.

The consultant QA officer or their designee will be responsible for performing the assessments and initiating any required CA. They will have the authority to order work stoppage, with the concurrence of the APS remedial project manager, if necessary.

9. Reports to Management

The types of reports that will be submitted to agencies and/or regulatory authorities will vary with each site. These reports will be a function of the environmental or health-based effort being undertaken at the site. They may include regularly scheduled surface and groundwater monitoring reports and periodic technical status reports summarizing project activities and any problems encountered. Significant problems identified during laboratory and data quality audits and the associated actions to remedy the problem will also be reported to management. Specific reports will be identified in the site-specific work plan, RAP, or equivalent document. The following information will be included, as applicable:

- Preparer, recipients, and frequency of reports
- Content and distribution of reports
- Project status
- Results of performance evaluations and audits
- Results of data quality assessments
- Documentation of significant QA problems

10. Reconciliation with User Requirements

Reconciliation of the environmental data with the project objectives will be addressed in the site-specific report, closure plan, or equivalent document. Use of statistical approaches may be discussed if applicable. The documentation should also include how limitations on the use of the data will be communicated to the data users.

11. References

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Tables

TABLE 2.1
Summary of Groundwater Protection Levels and Soil Remediation Levels
APS Quality Assurance Project Plan

Analyte	Residential SRLs (mg/kg)	Non-Residential SRLs (mg/kg)	Minimum GPL (mg/kg)
Volatile Organic Compounds			
1,1,1,2-Tetrachloroethane	32	73	NE
1,1,1-Trichloroethane	1,200	1,200	1.0
1,1,2,2-Tetrachloroethane	4.2	9.3	NE
1,1,2-Trichloroethane	7.4	16	NE
1,1-Dichloroethane	510	1,700	NE
1,1-Dichloroethene	120	410	0.81
1,2,3-Trichloropropane	0.05	0.11	NE
1,2,4-Trichlorobenzene	62	220	NE
1,2,4-Trimethylbenzene	52	170	NE
1,2-Dibromo-3-chloropropane	1.5	6.5	0.015
1,2-Dibromoethane (EDB)	0.29	0.63	0.0033
1,2-Dichlorobenzene	600	600	72
1,2-Dichloroethane	2.8	6.0	0.21
1,2-Dichloropropane	3.4	7.4	0.28
1,3,5-Trimethylbenzene	21	70	NE
1,3-Dichlorobenzene	530	600	NE
1,3-Dichloropropane	100	360	NE
1,4-Dichlorobenzene	35	79	9.3
2-Butanone	23,000	34,000	NE
2-Chlorotoluene	160	510	NE
4-Methyl-2-pentanone	5,300	17,000	NE
Acetone	14,000	54,000	NE
Acrolein	0.10	0.34	NE
Acrylonitrile	2.1	4.9	NE
Benzene	0.65	1.4	0.71
Bromobenzene	28	92	NE
Bromodichloromethane	8.3	18	NE
Bromoform	690	2,200	NE
Bromomethane	3.9	13	NE

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Summary of Groundwater Protection Levels and Soil Remediation Levels
APS Quality Assurance Project Plan

Analyte	Residential SRLs (mg/kg)	Non-Residential SRLs (mg/kg)	Minimum GPL (mg/kg)
Carbon Disulfide	360	720	NE
Carbon Tetrachloride	2.2	5.5	1.6
Chlorobenzene	150	530	22
Chloroethane	30	65	NE
Chloroform	9.4	20	NE
Chloromethane	48	160	NE
cis-1,2-Dichloroethene	43	150	4.9
Dibromochloromethane	11	26	NE
Dibromomethane	67	230	NE
Dichlorodifluoromethane	94	310	NE
Ethylbenzene	400	400	120
Hexachlorobutadiene	18	180	NE
Isopropylbenzene	92	92	NE
Methylene chloride	93	210	NE
Methyl-tert-butyl- ether	320	710	NE
N-Butylbenzene	240	240	NE
N-Propylbenzene	240	240	NE
Naphthalene	56	190	NE
sec-Butylbenzene	220	220	NE
Styrene	1,500	1,500	36
tert-Butylbenzene	390	390	NE
Tetrachloroethene	5.1	13	1.3
Toluene	650	650	400
Total Trihalomethanes	NE	NE	6.8
trans-1,2-Dichloroethene	69	230	8.4
Trichloroethene	17	65	0.61
Trichlorofluoromethane	390	1,300	NE
Vinyl acetate	430	1,400	NE
Vinyl chloride	0.085	0.75	NE
Total xylenes	270	420	2,200

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APS Quality Assurance Project Plan

Analyte	Residential SRLs (mg/kg)	Non-Residential SRLs (mg/kg)	Minimum GPL (mg/kg)
Polynuclear Aromatic Hydrocarbons			
Acenaphthene	3,700	29,000	NE
Anthracene	22,000	240,000	NE
Benz(a)anthracene	6.9	21	NE
Benzo(a)pyrene	0.69	2.1	NE
Benzo(b)fluoranthene	6.9	21	NE
Benzo(k)fluoranthene	69	210	NE
Chrysene	680	2,000	NE
Dibenz(a,h)anthracene	0.69	2.1	NE
Fluoranthene	2,300	22,000	NE
Fluorene	2,700	26,000	NE
Indeno(1,2,3-cd)pyrene	6.9	21	NE
Naphthalene	56	190	NE
Pyrene	2,300	29,000	NE
Pesticides and Polychlorinated Biphenyls			
4,4'-DDD	28	100	NE
4,4'-DDE	20	70	NE
4,4'-DDT	20	70	NE
Aldrin	0.32	1.0	NE
alpha-BHC	1.0	3.6	NE
beta-BHC	3.6	13	NE
gamma-BHC	5.0	17	0.088
Chlordane	19	65	NE
Dieldrin	0.34	1.1	NE
Endrin	18	180	45
Heptachlor	1.2	3.8	NE
Heptachlor Epoxide	0.60	1.9	NE
Methoxychlor	310	3,100	NE
Toxaphene	5.0	16	NE
Aroclor-1016	0.43	1.9	NE

TABLE 2.1
Summary of Groundwater Protection Levels and Soil Remediation Levels
APS Quality Assurance Project Plan

Analyte	Residential SRLs (mg/kg)	Non-Residential SRLs (mg/kg)	Minimum GPL (mg/kg)
Aroclor-1221	0.43	1.9	NE
Aroclor-1232	0.43	1.9	NE
Aroclor-1242	0.43	1.9	NE
Aroclor-1248	0.43	1.9	NE
Aroclor-1254	0.43	1.9	NE
Aroclor-1260	0.43	1.9	NE
Semivolatile Organic Compounds			
1,2-Diphenylhydrazine	6.8	22	NE
2,4-Dinitrotoluene	120	1,200	NE
2,6-Dinitrotoluene	61	620	NE
2,4,5-Trichlorophenol	6,100	62,000	NE
2,4,6-Trichlorophenol	6.1	62	NE
2,4-Dichlorophenol	180	1,800	NE
2,4-Dimethylphenol	1,200	12,000	NE
2,4-Dinitrophenol	120	1,200	NE
2-Chloronaphthalene	110	110	NE
2-Chlorophenol	63	240	NE
2-Methylphenol	3,100	31,000	NE
2-Nitroaniline	180	1,800	NE
3-Nitroaniline	18	180	NE
3,3'-Dichlorobenzidine	12	38	NE
4-Chloroaniline	240	2,500	NE
3&4-Methylphenol	310	3,100	NE
4-Nitroaniline	180	820	NE
Benzidine	0.0024	0.0075	NE
Benzoic Acid	240,000	1,000,000	NE
Benzyl Alcohol	18,000	180,000	NE
Bis(2-Chloroethyl)Ether	2.3	5.8	NE
Bis(2-Chloroisopropyl)Ether	790	790	NE
Bis(2-Ethylhexyl)Phthalate	390	1,200	NE

TABLE 2.1
Summary of Groundwater Protection Levels and Soil Remediation Levels
APS Quality Assurance Project Plan

Analyte	Residential SRLs (mg/kg)	Non-Residential SRLs (mg/kg)	Minimum GPL (mg/kg)
Butyl benzyl phthalate	12,000	120,000	NE
Dibenzofuran	140	140	NE
Diethyl phthalate	49,000	490,000	NE
Dimethyl phthalate	610,000	1,000,000	NE
Di-n-Butylphthalate	6,100	62,000	NE
Di-n-Octylphthalate	2,400	25,000	NE
Hexachlorobenzene	3.4	11	NE
Hexachlorocyclopentadiene	370	3,700	NE
Hexachloroethane	61	620	NE
Isophorone	5,800	18,000	NE
Nitrobenzene	20	100	NE
n-Nitrosodimethylamine	0.11	0.34	NE
N-Nitroso-di-n-Propylamine	0.78	2.5	NE
N-Nitrosodiphenylamine	1,100	3,500	NE
Pentachlorophenol	32	90	NE
Phenol	18,000	180,000	NE
Dioxins			
2,3,7,8-TCDD	0.000045	0.00016	NE
Metals			
Aluminum	76,000	920,000	NE
Antimony	31	410	35
Arsenic	10	10	290
Barium	15,000	170,000	12,000
Beryllium	150	1,900	23
Boron	16,000	200,000	NE
Cadmium	39	510	29
Chromium	120,000	1,000,000	590
Hexavalent Chromium	30	65	NE
Cobalt	1,400	13,000	NE
Copper	3,100	41,000	NE

TABLE 2.1
Summary of Groundwater Protection Levels and Soil Remediation Levels
APS Quality Assurance Project Plan

Analyte	Residential SRLs (mg/kg)	Non-Residential SRLs (mg/kg)	Minimum GPL (mg/kg)
Lead	400	800	290
Lithium	1,600	20,000	NE
Manganese	3,300	32,000	NE
Mercury	23	310	12
Molybdenum	390	5,100	NE
Nickel	1,600	20,000	590
Selenium	390	5,100	290
Silver	390	5,100	NE
Thallium	5.2	67	12
Uranium	16	200	NE
Vanadium	78	1,000	NE
Zinc	23,000	310,000	NE
Cyanide			
Free Cyanide	1,200	12,000	NE

SRL = Soil Remediation Level[1]

GPL = Groundwater Protection Level[2]

NE = Not Established

mg/kg = milligram(s) per kilogram

Sources:

[1]A.A.C., Title 18, Chapter 7, Article 2, Appendix A. Soil Remediation Levels, update May 2007.

[2]ADEQ, A Screening Method to Determine Soil Concentrations Protective of Groundwater Quality, Minimum GPLs, September 1996.

TABLE 2.2
Summary of Regulatory Cleanup Levels for Groundwater and EPA Maximum Contaminant Levels
APS Quality Assurance Project Plan

Analyte	Aquifer Water Quality Standards	EPA MCL
Volatile Organic Compounds (μg/L)		
1,1,1-Trichloroethane	200	200
1,1,2-Trichloroethane	5.0	5.0
1,1-Dichloroethene	7.0	7.0
1,2,4-Trichlorobenzene	70	70
1,2-Dibromo-3-chloropropane	0.20	0.20
1,2-Dibromoethane (EDB)	0.05	0.05
1,2-Dichlorobenzene	600	600
1,2-Dichloroethane	5.0	5.0
1,2-Dichloropropane	5.0	5.0
1,4-Dichlorobenzene	75	75
Benzene	5.0	5.0
Carbon Tetrachloride	5.0	5.0
Chlorobenzene	100	100
cis-1,2-Dichloroethene	70	70
Ethylbenzene	700	700
Methylene chloride	5.0	5.0
Styrene	100	100
Tetrachloroethene	5.0	5.0
Toluene	1,000	1,000
trans-1,2-Dichloroethene	100	100
Total Trihalomethanes	100	80
Trichloroethene	5.0	5.0
Vinyl chloride	2.0	2.0
Total xylenes	10,000	10,000
Semivolatile Organic Compounds (μg/L)		
Benzo(a)pyrene	0.2	0.2
Bis(2-ethylhexyl)phthalate	6.0	6.0
Carbofuran	40	40
Hexachlorobenzene	1.0	1.0

TABLE 2.2
Summary of Regulatory Cleanup Levels for Groundwater and EPA Maximum Contaminant Levels
APS Quality Assurance Project Plan

Analyte	Aquifer Water Quality Standards	EPA MCL
Hexachlorocyclopentadiene	50	50
Pentachlorophenol	1.0	1.0
Pesticides/Polychlorinated Biphenyls (μg/L)		
Chlordane	2.0	2.0
Endrin	2.0	2.0
Heptachlor	0.40	0.40
Heptachlor Epoxide	0.20	0.20
Gamma-BHC (Lindane)	0.20	0.20
Methoxychlor	40	40
Toxaphene	3.0	3.0
PCBs	0.50	0.50
Metals (μg/L)		
Aluminum	NE	50
Antimony	6.0	6
Arsenic	50	10
Barium	2,000	2000
Beryllium	4.0	4
Cadmium	5.0	5
Chromium	100	100
Copper	NE	1300
Lead	50	15
Mercury	2.0	2
Nickel	100	NE
Selenium	50	50
Thallium	2.0	2
Uranium	NE	30
Cyanide (μg/L)		
Free Cyanide[c]	200	200
Nitrate/Nitrite (μg/L)		
Nitrate/nitrite	10,000	10,000

TABLE 2.2
Summary of Regulatory Cleanup Levels for Groundwater and EPA Maximum Contaminant Levels
APS Quality Assurance Project Plan

Analyte	Aquifer Water Quality Standards	EPA MCL
Nitrate	10,000	10,000
Nitrite	1,000	1,000
Asbestos (fibers/liter)		
Asbestos	7,000,000 (longer than 10 mm)	NE
RA-226 and RA-228 (pCi/L)		
Combined Radium – 226=228	NE	5
Dioxins (µg/L)		
2,3,7,8-TCDD	0.00000003	0.00000003

Source: A.A.C., Title 18, Chapter 11, Article 4, R18-11-406 Numeric Aquifer Water Quality Standards: Drinking Water Protected Use, December 2016 Update.

TABLE 2.3
Summary of Regulatory Cleanup Levels for Surface Water
APS Quality Assurance Project Plan

Analyte	DWS[1] (µg/L)	FC[(1)] (µg/L)	FBC[(1)] (µg/L)	PCB[(1)] (µg/L)	A&Wc		A&Ww		A&Wedw		A&We	AgI[(1)] (µg/L)	AgL[(1)] (µg/L)
					Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)		
Acenaphthene	420	198	56000	56000	850	550	850	550	850	550	NE	NE	NE
Acrolein	3.5	1.9	467	467	34	30	34	30	34	30	NE	NE	NE
Acrylonitrile	0.06	0.2	3	37333	3800	250	3800	250	3800	250	NE	NE	NE
Aldrin	0.002	0.00005	0.08	28	3	NE	3	NE	3	NE	4.5	0.003	NE
Anthracene	2100	74	280000	280000	NE	NE	NE	NE	NE	NE	NE	NE	NE
Antimony	6	640	747	747	88	30	88	30	1000	600	NE	NE	NE
Arsenic (as As)	10 T	80 T	30 T	280 T	340 D	150 D	340 D	150 D	340 D	150 D	440 D	2000	200
Barium (as Ba)	2000 T	NE	98000 D	98000 D	NE	NE	NE	NE	NE	NE	NE	2000 T	200 T
Benzene	5	140	93	3733	2700	180	2700	180	8800	560	NE	NE	NE
Benzidine	0.0002	0.0002	0.01	2800	1300	89	1300	89	1300	89	10000	0.01	0.01
Benzo (a) anthracene	0.005	0.2	0.2	0.2	NE	NE	NE	NE	NE	NE	NE	NE	NE
Benzo (a) pyrene	0.2	0.02	0.2	0.2	NE	NE	NE	NE	NE	NE	NE	NE	NE
Benzo (k) fluoranthene	0.005	0.02	1.9	1.9	NE	NE	NE	NE	NE	NE	NE	NE	NE
Beryllium	4	84	1867	1867	65	5.3	65	5.3	65	5.3	NE	NE	NE
Bis(2-chloroethyl)ether	0.03	0.5	1	1	120000	6700	120000	6700	120000	6700	NE	NE	NE
Bis(2-chloroisopropyl)ether	280	3441	37333	37333	NE	NE	NE	NE	NE	NE	NE	NE	NE
Bis(2-ethyl hexy)phthalate	6	3	100	18667	400	360	400	360	400	360	3100	NE	NE
Boron	1400	NE	186667	186667	NE	NE	NE	NE	NE	NE	NE	1000 T	NE
Bromodichloromethane	TTHM	17	TTHM	18667	NE	NE	NE	NE	NE	NE	NE	NE	NE
Bromoform	TTHM	133	180	18667	15000	10000	15000	10000	15000	10000	NE	NE	NE
Bromomethane	9.8	299	1307	1307	5500	360	5500	360	5500	360	NE	NE	NE
Butyl Benzyl Phthalate	1400	386	186667	186667	1700	130	1700	130	1700	130	NE	NE	NE
Cadmium (as Cd)	5 T	84 T	700 T	700 T	D	D	D	D	D	D	D	NE	NE
Carbon tetrachloride	5	2	11	980	18000	1100	18000	1100	18000	1100	NE	NE	NE
Chlordane	2	0.0008	4	467	2.4	0.004	2.4	0.2	2.4	0.2	3.2	NE	NE
Chlorobenzene	100	1553	18667	18667	3800	260	3800	260	3800	260	NE	NE	NE
2-Chloroethyl vinyl ether	NE	NE	NE	NE	180000	9800	180000	9800	180000	9800	NE	NE	NE
Chloroform	TTHM	470	230	9333	14000	900	14000	900	14000	900	NE	NE	NE
4-Chloro-3-methylphenol	NE	NE	NE	NE	15	4.7	15	4.7	15	4.7	48000	NE	NE
Chloromethane	NE	NE	NE	NE	270000	15000	270000	15000	270000	15000	NE	NE	NE
2-Chloronaphthalene	560	317	74667	74667	NE	NE	NE	NE	NE	NE	NE	NE	NE
2-Chlorophenol	35	30	4667	4667	2200	150	2200	150	2200	150	NE	NE	NE
Chromium (Total as Cr)	100 T	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	1000	1000
Chromium, Hexavalent	21	150	2800	2800	16	11	16	11	16	11	34	NE	NE
Chrysene	0.005	0.02	19	19	NE	NE	NE	NE	NE	NE	NE	NE	NE
Copper	1300	NE	1300	1300	D	D	D	D	D	D	D	5000	500
Cyanide	200 T	16000 T	18667 T	18667 T	22 T	5.2 T	41 T	9.7 T	41 T	9.7 T	84 T	NE	200 T
Dibenzo (ah) anthracene	0.005	0.02	1.9	1.9	NE	NE	NE	NE	NE	NE	NE	NE	200 T
Dibromochloromethane	TTHM	13	TTHM	18667	NE	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dibromo-3-chloropropane (DBCP)	0.2	NE	2800	2800	NE	NE	NE	NE	NE	NE	NE	NE	NE

TABLE 2.3
Summary of Regulatory Cleanup Levels for Surface Water
APS Quality Assurance Project Plan

Analyte	DWS[1] (µg/L)	FC[(1)] (µg/L)	FBC[(1)] (µg/L)	PCB[(1)] (µg/L)	A&Wc		A&Ww		A&Wedw		A&We	AgI[(1)] (µg/L)	AgL[(1)] (µg/L)
					Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)		
1,2-Dibromoethane (EDB)	0.05	NE	8400	8400	NE	NE	NE	NE	NE	NE	NE	NE	NE
di-n-Butyl Phthalate	700	899	93333	93333	470	35	470	35	470	35	1100	NE	NE
1,2-Dichlorobenzene	600	205	84000	84000	790	300	1200	470	1200	470	5900	NE	NE
1,3-Dichlorobenzene	NE	NE	NE	NE	2500	970	2500	970	2500	970	NE	NE	NE
1,4-Dichlorobenzene	75	5755	373333	373333	560	210	2000	780	2000	780	6500	NE	NE
3,3-Dichlorobenzidine	0.08	0.03	3	3	NE	NE	NE	NE	NE	NE	NE	NE	NE
4,4-DDD	0.1	0.0002	4	467	1.1	0.001	1.1	0.001	1.1	0.001	1.1	0.001	0.001
4,4-DDE	0.1	0.0002	4	467	1.1	0.001	1.1	0.001	1.1	0.001	1.1	0.001	0.001
4,4-DDT	0.1	0.0002	4	467	1.1	0.001	1.1	0.001	1.1	0.001	1.1	0.001	0.001
1,2-Dichloroethane	5	37	15	186667	59000	41000	59000	41000	59000	41000	NE	NE	NE
1,1-Dichloroethylene	7	7143	46667	46667	15000	950	15000	950	15000	950	NE	NE	NE
1,2-cis-Dichloroethylene	70	NE	70	70	NE	NE	NE	NE	NE	NE	NE	NE	NE
1,2-trans-Dichloroethylene	100	10127	18667	18667	68000	3900	68000	3900	68000	3900	NE	NE	NE
Dichloromethane	5	593	190	56000	97000	5500	97000	5500	97000	5500	NE	NE	NE
2,4-Dichlorophenol	21	59	2800	2800	1000	88	1000	88	1000	88	NE	NE	NE
1,2-Dichloropropane	5	17518	84000	84000	26000	9200	26000	9200	26000	9200	NE	NE	NE
Dieldrin	0.002	0.00005	0.09	47	0.2	0.06	0.2	0.06	0.2	0.06	4	0.003	NE
Diethyl Phthalate	5600	8767	746667	746667	26000	1600	26000	1600	26000	1600	NE	NE	NE
2,4-Dimethylphenol	140	171	18667	18667	1000	310	1000	310	1000	310	150000	NE	NE
Dimethyl Phthalate	NE	NE	NE	NE	17000	1000	17000	1000	17000	1000	NE	NE	NE
4,6-Dinitro-2-methylphenol	28	582	3733	3733	310	24	310	24	310	24	NE	NE	NE
2,4-Dinitrophenol	14	1067	1867	1867	110	9.2	110	9.2	110	9.2	NE	NE	NE
2,4-Dinitrotoluene	14	421	1867	1867	14000	860	14000	860	14000	860	NE	NE	NE
2,6-Dinitrotoluene	0.05	NE	2	3733	NE	NE	NE	NE	NE	NE	NE	NE	NE
di-n-Octyl phthalate	2800	NE	373333	373333	NE	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Diphenylhydrazine	0.04	0.2	1.8	1.8	130	11	130	11	130	11	NE	NE	NE
Endosulfan Sulfate	42	18	5600	5600	0.2	0.06	0.2	0.06	0.2	0.06	3	NE	NE
Endrin	2	0.06	280	280	0.09	0.04	0.09	0.04	0.09	0.04	0.7	0.004	0.004
Endrin Aldehyde	NE	NE	NE	NE	0.09	0.04	0.09	0.04	0.09	0.04	0.7	NE	NE
Ethlybenzene	700	2133	93333	93333	23000	1400	23000	1400	23000	1400	NE	NE	NE
Fluoranthene	280	28	37333	37333	2000	1600	2000	1600	2000	1600	NE	NE	NE
Fluorene	280	1067	37333	37333	NE	NE	NE	NE	NE	NE	NE	NE	NE
Heptachlor	0.4	0.00008	0.4	467	0.5	0.004	0.5	0.004	0.5	0.004	0.8	NE	NE
Heptachlor Epoxide	0.2	0.00004	0.2	12	0.5	0.004	0.5	0.004	0.5	0.004	0.8	NE	NE
Hexachlorobenzene	1	0.0003	1	747	6	3.7	6	3.7	6	3.7	NE	NE	NE
Hexachlorobutadiene	0.4	18	18	187	45	8.2	45	8.2	45	8.2	NE	NE	NE
Alpha-BHC	0.006	0.005	0.22	7467	1600	130	1600	130	1600	130	1600	NE	NE
Beta-BHC	0.02	0.02	0.78	560	1600	130	1600	130	1600	130	1600	NE	NE
Delta-BHC	NE	NE	NE	NE	1600	130	1600	130	1600	130	1600	NE	NE
Gamma-BHC (Lindane)	0.2	1.8	280	280	1	0.08	1	0.28	1	0.61	11	NE	NE

TABLE 2.3
Summary of Regulatory Cleanup Levels for Surface Water
APS Quality Assurance Project Plan

Analyte	DWS[1] (µg/L)	FC[(1)] (µg/L)	FBC[(1)] (µg/L)	PCB[(1)] (µg/L)	A&Wc		A&Ww		A&Wedw		A&We	AgI[(1)] (µg/L)	AgL[(1)] (µg/L)
					Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)		
Hexachlorocyclopentadiene	50	580	9800	9800	3.5	0.3	3.5	0.3	3.5	0.3	NE	NE	NE
Hexachloroethane	2.5	3.3	100	933	490	350	490	350	490	350	850	NE	NE
Indeno (1,2,3-cd) pyrene	0.05	0.49	1.9	1.9	NE	NE	NE	NE	NE	NE	NE	NE	NE
Isophorone	37	961	1500	186667	5900	4300	5900	4300	5900	4300	NE	NE	NE
Lead (as Pb)	15 T	NE	15 T	15 T	D	D	D	D	D	D	D	10000 T	100 T
Manganese	980	NE	130667	130667	NE	NE	NE	NE	NE	NE	NE	10000	NE
Mercury (as Hg)	2 T	NE	280 T	280 T	2.4 D	0.01 D	2.4 D	0.01 D	2.6 D	0.2 D	5.0 D	NE	10 T
Methoxychlor	40	NE	4667	4667	NE	0.03	NE	0.03	NE	0.03	NE	NE	NE
Naphthalene	140	1524	18667	18667	1100	210	3200	580	3200	580	NE	NE	NE
Nickel	140 T	4600 T	28000 T	28000 T	D	D	D	D	D	D	D	NE	NE
Nitrate	10000	NE	3733333	3733333	NE	NE	NE	NE	NE	NE	NE	NE	NE
Nitrite	1000	NE	233333	233333	NE	NE	NE	NE	NE	NE	NE	NE	NE
Nitrate+nitrite	10000	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Nitrobenzene	3.5	138	467	467	1300	850	1300	850	1300	850	NE	NE	NE
4-Nitrophenol	NE	NE	NE	NE	4100	3000	4100	3000	4100	3000	NE	NE	NE
n-Nitrosodimethylamine	0.001	3	0.03	0.03	NE	NE	NE	NE	NE	NE	NE	NE	NE
n-Nitrosodiphenylamine	7.1	6	290	290	2900	200	2900	200	2900	200	NE	NE	NE
n-Nitrosodi-npropylamine	0.005	0.5	0.2	88667	NE	NE	NE	NE	NE	NE	NE	NE	NE
Pentachlorophenol	1	1000	12	28000	NE	NE	NE	NE	NE	NE	NE	NE	NE
Phenanthrene	NE	NE	NE	NE	30	6.3	30	6.3	30	6.3	NE	NE	NE
Phenol	2100	37	280000	280000	5100	730	7000	1000	7000	1000	180000	NE	NE
PCBs	0.5	0.00006	19	19	2	0.01	2	0.02	2	0.02	11	0.001	0.001
Pyrene	210	800	28000	28000	NE	NE	NE	NE	NE	NE	NE	NE	NE
Selenium (as Se)	50 T	667 T	4667 T	4667 T	NE	2.0 T	NE	2.0 T	NE	2.0 T	33 T	NE	NE
Silver (as Ag)	35 T	8000 T	4667 T	4667 T	D	NE	D	NE	D	NE	D	20 T	50 T
Styrene	100	NE	186667	186667	5600	370	5600	370	5600	370	NE	NE	NE
2,3,7,8-TCDD	0.00003	5X10-9	0.00003	0.0009	0.01	0.005	0.01	0.005	0.01	0.005	0.1	NE	NE
1,1,2,2-Tetrachloroethane	0.2	4	7	56000	4700	3200	4700	3200	4700	3200	NE	NE	NE
Tetrachloroethylene	5	261	9333	9333	2600	280	6500	680	6500	680	15000	NE	NE
Thallium	2 T	7.2 T	75 T	75 T	700 D	150 D	700 D	150 D	700 D	150 D	NE	NE	NE
Toluene	1000	201000	280000	280000	8700	180	8700	180	8700	180	NE	NE	NE
Toxaphene	3	0.0003	1.3	933	0.7	0.0002	0.7	0.0002	0.7	0.0002	11	0.005	0.005
1,2,4-Trichlorobenzene	70	70	9333	9333	750	130	1700	300	1700	300	NE	NE	NE
1,1,1-Trichloroethane	200	428571	1866667	1866667	2600	1600	2600	1600	2600	1600	NE	1000	NE
1,1,2-Trichloroethane	5	16	25	3733	18000	12000	18000	12000	18000	12000	NE	NE	NE
Trichloroethylene	5	29	280000	280	20000	1300	20000	1300	20000	1300	NE	NE	NE
2,4,6-Trichlorphenol	3.2	2	130	130	160	25	160	25	160	25	3000	NE	NE
Trihalomethanes, Total	80	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Uranium	30 D	NE	2800	2800	NE	NE	NE	NE	NE	NE	NE	NE	NE
Vinyl chloride	2	5	2	2800	NE	NE	NE	NE	NE	NE	NE	NE	NE

TABLE 2.3
Summary of Regulatory Cleanup Levels for Surface Water
APS Quality Assurance Project Plan

Analyte	DWS[1] (µg/L)	FC[(1)] (µg/L)	FBC[(1)] (µg/L)	PCB[(1)] (µg/L)	A&Wc		A&Ww		A&Wedw		A&We	AgI[(1)] (µg/L)	AgL[(1)] (µg/L)
					Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)	Chronic[(3)] (µg/L)	Acute[(2)] (µg/L)		
Xylenes (Total)	10000	NE	186667	186667	NE	NE	NE	NE	NE	NE	NE	NE	NE
Zinc	2100 T	5106 T	280000 T	280000 T	D	D	D	D	D	D	D	10000 T	25000 T

Notes:

[1]The numeric standards to protect this use shall not be exceeded

[2]Determination of compliance with acute standards shall be as prescribed in R18-11-120C.

[3]Determination of compliance with chronic standards shall be as prescribed in R18-11-120C.

µg/L = Micrograms per liter

DWS = Domestic water source

FC = Fish consumption

FBC = Full body contact

PBC = Partial body contact

AgI = Agricultural irrigation

AgL = Agricultural livestock watering

TTHM = Indicates the chemical is a trihalomethane; see trihalomethanes for DWS standard

T = Total recoverable

A&Wc Acute = aquatic and wildlife (cold water fishery)

A&Wc Chronic = aquatic and wildlife (cold water fishery)

A&Ww Acute = aquatic and wildlife (warm water fishery)

A&Ww Chronic = aquatic and wildlife (warm water fishery)

A&Wedw Acute = aquatic and wildlife (effluent dependent water)

A&Wedw Chronic = aquatic and wildlife (effluent dependent water)

A&We Acute = aquatic and wildlife (ephemeral)

A&We Chronic = aquatic and wildlife (ephemeral)

NE = Not established

D = Dissolved

Source: Arizona Administrative Code, Title 18, Chapter 11, Article 1, Appendix A. Numeric Water Quality Standards, updated December 2016.

TABLE 2.4
Maximum Concentration of Contaminants for the Toxicity Characteristic Leaching Procedure
APS Quality Assurance Project Plan

Analyte	EPA Hazardous Waste Number	CAS Number	Regulatory Level (mg/L)
TCLP Metals			
Arsenic	D004	7440-38-2	5.0
Barium	D005	7440-39-3	100
Cadmium	D006	7440-43-9	1.0
Chromium	D007	7440-47-3	5.0
Lead	D008	7439-92-1	5.0
Mercury	D009	7439-97-6	0.20
Selenium	D010	7782-49-2	1.0
Silver	D011	7440-22-4	5.0
TCLP Semivolatile Organic Compounds			
2,4,5-Trichlorophenol		95-95-4	400
2,4,6-Trichlorophenol		88-06-2	2.0
2,4-Dinitrotoluene		121-14-2	0.13
2-Methylphenol		95-48-7	200
3-Methylphenol		108-39-4	200
4-Methylphenol		106-44-5	200
Hexachlorobenzene		118-74-1	0.13
Hexachlorobutadiene		87-68-3	0.50
Hexachloroethane		67-72-1	3.0
Nitrobenzene		98-95-3	2.0
Pentachlorophenol		87-86-5	100
Pyridine		110-86-1	5.0
TCLP Pesticides			
Chlordane		57-74-9	0.03
Endrin		72-20-8	0.02
Heptachlor		76-44-8	0.008
Heptachlor Epoxide		1024-57-3	0.008
Gamma-BHC (Lindane)		58-89-9	0.40
Methoxychlor		72-43-5	10
Toxaphene		8001-35-2	0.50

TABLE 2.4
Maximum Concentration of Contaminants for the Toxicity Characteristic Leaching Procedure
APS Quality Assurance Project Plan

Analyte	EPA Hazardous Waste Number	CAS Number	Regulatory Level (mg/L)
TCLP Volatile Organic Compounds			
1,1-Dichloroethene	D029	75-35-4	0.7
1,2-Dichloroethane	D028	107-06-2	0.5
2-Butanone (Methylethyl ketone [MEK])	D035	78-93-3	200.0
Benzene	D018	71-43-2	0.5
Carbon Tetrachloride	D019	56-23-5	0.5
Chlorobenzene	D021	108-90-7	100.0
Chloroform	D022	67-66-3	6.0
Tetrachloroethene	D039	127-18-4	0.7
Trichloroethene	D040	79-01-6	0.5
Vinyl chloride	D043	75-01-4	0.2

Notes:
Source: 40 CFR Sec. 261.24
CAS = Chemical Abstracts Service
TCLP = Toxicity Characteristic Leachate Procedure

Table 2-5. Ambient Air Action Levels and Maximum Allowable Ambient Air Concentrations

APS Quality Assurance Project Plan

Constituent	Ambient Air Action Level Regional Screening Levels (RSL)[a] Residential Air (µg/m^3)	4-Month Maximum Allowable Ambient Air Concentrations Site Specific[b] (µg/m^3)	6-Month Maximum Allowable Ambient Air Concentrations Site Specific[b] (µg/m^3)	1-Year Maximum Allowable Ambient Air Concentrations Site Specific[c] (µg/m^3)
Volatile Organic Compounds				
Benzene	0.36	2,808	1,872	936
Metals				
Arsenic	0.00065	5	3	2
Lead	0.15	NA	NA	NA
Polynuclear Aromatic Hydrocarbons (PAHs)				
Acenaphthene	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA
Benzo(a)anthracene	0.017	133	88	44
Benzo(a)pyrene	0.00021	13	9	4
Benzo(b fluoranthene	0.017	133	88	44
Benzo(g,h,i)perylene	NA	NA	NA	NA
Benzo(k)fluoranthene	0.17	1,326	884	442
Chrysene	1.7	13,260	8,840	4,420
Dibenz(a,h)anthracene	0.0017	13	9	4
Fluoranthene	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.017	133	88	44
Naphthalene	0.083	647	432	216
Phenathrene	NA		NA	NA

Table 2-5. Ambient Air Action Levels and Maximum Allowable Ambient Air Concentrations

APS Quality Assurance Project Plan

Constituent	Ambient Air Action Level Regional Screening Levels (RSL)[a] Residential Air (µg/m^3)	4-Month Maximum Allowable Ambient Air Concentrations Site Specific[b] (µg/m^3)	6-Month Maximum Allowable Ambient Air Concentrations Site Specific[b] (µg/m^3)	1-Year Maximum Allowable Ambient Air Concentrations Site Specific[c] (µg/m^3)
Pyrene	NA		NA	NA

[a] United States Environmental Protection Agency Residential Air Regional Screening Levels (May 2021). Assume 10% of RSL as action level. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

[b] Site Specific Maximum Allowable Concentrations based on the RSLs assuming an exposure duration of 4 and 6 months for offsite residential receptors based on 26-year exposure duration.

The 4-Month Maximum Allowable Concentration assumes 1/78th exposure, so the RSL is multiplied by 78. The 6-month Maximum Allowable Concentration assumes 1/52nd exposure, so the RSL is multiplied by 52.

[c] Site Specific Maximum Allowable Concentrations based on the RSLs assuming an exposure duration of 1 year for offsite residential receptors based on 26-year exposure duration.

The 1-Year Maximum Allowable Concentration assumes 1/26th exposure, so the RSL is multiplied by 26.

NA = Not Applicable, no RSL listed for constituent

µg/m^3 = microgram(s) per cubic meter

TABLE 2.6
Summary of EPA Regional Screening Levels
APS Quality Assurance Project Plan

Analyte	Units	EPA Residential Soil RSL	EPA Industrial Soil RSL
Volatile Organic Compounds			
1,1,1,2-Tetrachloroethane	mg/kg	2.0	8.8
1,1,1-Trichloroethane	mg/kg	810	3600
1,1,2,2-Tetrachloroethane	mg/kg	0.60	2.7
1,1,2-Trichloroethane	mg/kg	0.15	0.63
1,1-Dichloroethane	mg/kg	3.6	16
1,1-Dichloroethene	mg/kg	23	100
1,2,3-Trichlorobenzene	mg/kg	6.3	93
1,2,3-Trichloropropane	mg/kg	0.0051	0.11
1,2,4-Trichlorobenzene	mg/kg	5.8	26
1,2,4-Trimethylbenzene	mg/kg	30	180
1,2-Dibromo-3-chloropropane	mg/kg	0.0053	0.064
1,2-Dibromoethane	mg/kg	0.036	0.16
1,2-Dichlorobenzene	mg/kg	180	930
1,2-Dichloroethane	mg/kg	0.46	2.0
1,2-Dichloropropane	mg/kg	1.6	6.6
1,3,5-Trimethylbenzene	mg/kg	27	150
1,3-Dichloropropane	mg/kg	160	2300
1,4-Dichlorobenzene	mg/kg	2.6	11
2-Butanone	mg/kg	2700	19000
2-Chlorotoluene	mg/kg	160	2300
2-Hexanone	mg/kg	20	130
4-Chlorotoluene	mg/kg	160	2300
4-Methyl-2-pentanone	mg/kg	3300	14000
Acetone	mg/kg	6100	67000
Acrolein	mg/kg	0.014	0.06
Acrylonitrile	mg/kg	0.25	1.1
Benzene	mg/kg	1.2	5.1
Bromobenzene	mg/kg	29	180
Bromochloromethane	mg/kg	15	63

TABLE 2.6
Summary of EPA Regional Screening Levels
APS Quality Assurance Project Plan

Analyte	Units	EPA Residential Soil RSL	EPA Industrial Soil RSL
Bromodichloromethane	mg/kg	0.29	1.3
Bromoform	mg/kg	19	86
Bromomethane	mg/kg	0.68	3.0
Carbon Disulfide	mg/kg	77	350
Carbon Tetrachloride	mg/kg	0.65	2.9
Chlorobenzene	mg/kg	28	130
Chloroethane	mg/kg	1400	5700
Chloroform	mg/kg	0.32	1.4
Chloromethane	mg/kg	11	46
cis-1,2-Dichloroethene	mg/kg	16	230
Dibromochloromethane	mg/kg	8.3	39
Dibromomethane	mg/kg	2.4	9.9
Dichlorodifluoromethane	mg/kg	8.7	37
Ethylbenzene	mg/kg	5.8	25
Hexachlorobutadiene	mg/kg	1.2	5.3
Isopropylbenzene	mg/kg	190	990
Methylene chloride	mg/kg	35	320
Methyl-tert-butyl- ether	mg/kg	47	210
N-Butylbenzene	mg/kg	390	5800
N-Propylbenzene	mg/kg	380	2400
Naphthalene	mg/kg	2.0	8.6
sec-Butylbenzene	mg/kg	780	12000
Styrene	mg/kg	600	3500
tert-Butylbenzene	mg/kg	390	5800
Tetrachloroethene	mg/kg	8.1	39
Toluene	mg/kg	490	4700
trans-1,2-Dichloroethene	mg/kg	7.0	30
Trichloroethene	mg/kg	0.41	1.9
Trichlorofluoromethane	mg/kg	2300	35000
Vinyl acetate	mg/kg	91	380

TABLE 2.6
Summary of EPA Regional Screening Levels
APS Quality Assurance Project Plan

Analyte	Units	EPA Residential Soil RSL	EPA Industrial Soil RSL
Vinyl chloride	mg/kg	0.059	1.7
Total xylenes	mg/kg	58	250
Semivolatile Organic Compounds			
Acenaphthene	mg/kg	360	4500
Anthracene	mg/kg	1800	23000
Benz(a)anthracene	mg/kg	1.1	21
Benzo(a)pyrene	mg/kg	0.11	2.1
Benzo(b)fluoranthene	mg/kg	1.1	21
Benzo(k)fluoranthene	mg/kg	11	210
Chrysene	mg/kg	110	2100
Dibenz(a,h)anthracene	mg/kg	0.11	2.1
Fluoranthene	mg/kg	240	3000
Fluorene	mg/kg	240	3000
Indeno(1,2,3-cd)pyrene	mg/kg	1.1	21
2-Methylnaphthalene	mg/kg	24	300
Naphthalene	mg/kg	2.0	8.6
Pyrene	mg/kg	180	2300
1,2,4-Trichlorobenzene	mg/kg	5.8	26
1,2-Dichlorobenzene	mg/kg	180	930
1,2-Diphenylhydrazine	mg/kg	0.68	2.9
1,4-Dichlorobenzene	mg/kg	2.6	11
2,4-Dinitrotoluene	mg/kg	1.7	7.4
2,6-Dinitrotoluene	mg/kg	0.36	1.5
2,4,5-Trichlorophenol	mg/kg	630	8200
2,4,6-Trichlorophenol	mg/kg	6.3	82
2,4-Dichlorophenol	mg/kg	19	250
2,4-Dimethylphenol	mg/kg	130	1600
2,4-Dinitrophenol	mg/kg	13	160
2-Chloronaphthalene	mg/kg	480	6000
2-Chlorophenol	mg/kg	39	580

TABLE 2.6
Summary of EPA Regional Screening Levels
APS Quality Assurance Project Plan

Analyte	Units	EPA Residential Soil RSL	EPA Industrial Soil RSL
2-Methylphenol	mg/kg	320	4100
2-Nitroaniline	mg/kg	63	800
2-Methyl-4,6-Dinitrophenol	mg/kg	0.51	6.6
3,3'-Dichlorobenzidine	mg/kg	1.2	5.1
4-Chloro-3-methylphenol	mg/kg	630	8200
4-Chloroaniline	mg/kg	2.7	11
3&4-Methylphenol	mg/kg	320	4100
4-Nitroaniline	mg/kg	25	110
Benzidine	mg/kg	0.00053	0.01
Benzoic Acid	mg/kg	25000	330000
Benzyl Alcohol	mg/kg	630	8200
Bis(2-Chloroethyl)Ether	mg/kg	0.23	1.0
Bis(2-Chloroisopropyl)Ether	mg/kg	310	4700
Bis(2-Ethylhexyl)Phthalate	mg/kg	39	160
Bis(2-chloroethoxy)methane	mg/kg	19	250
Butylbenzylphthalate	mg/kg	290	1200
Dibenzofuran	mg/kg	7.8	120
Diethylphthalate	mg/kg	5100	66000
Di-n-Butylphthalate	mg/kg	630	8200
Di-n-Octylphthalate	mg/kg	63	820
Hexachlorobenzene	mg/kg	0.21	0.96
Hexachlorobutadiene	mg/kg	1.2	5.3
Hexachlorocyclopentadiene	mg/kg	0.18	0.75
Hexachloroethane	mg/kg	1.8	8.0
Isophorone	mg/kg	570	2400
Nitrobenzene	mg/kg	5.1	22
N-Nitroso-dimethylamine	mg/kg	0.002	0.034
N-Nitroso-di-n-Propylamine	mg/kg	0.078	0.33
N-Nitrosodiphenylamine	mg/kg	110	470
Pentachlorophenol	mg/kg	1.0	4.0

TABLE 2.6
Summary of EPA Regional Screening Levels
APS Quality Assurance Project Plan

Analyte	Units	EPA Residential Soil RSL	EPA Industrial Soil RSL
Phenol	mg/kg	1900	25000
Organochlorine Pesticides			
4,4'-DDD	mg/kg	0.19	2.5
4,4'-DDE	mg/kg	2.0	9.3
4,4'-DDT	mg/kg	1.9	8.5
Aldrin	mg/kg	0.039	0.18
alpha-BHC	mg/kg	0.086	0.36
beta-BHC	mg/kg	0.30	1.3
gamma-BHC	mg/kg	0.57	2.5
Chlordane	mg/kg	1.7	7.7
Dieldrin	mg/kg	0.034	0.14
Endrin	mg/kg	1.9	25
Heptachlor	mg/kg	0.13	0.63
Heptachlor Epoxide	mg/kg	0.07	0.33
Methoxychlor	mg/kg	32	410
Toxaphene	mg/kg	0.49	2.1
PCBs			
Aroclor-1016	mg/kg	0.41	5.1
Aroclor-1221	mg/kg	0.20	0.83
Aroclor-1232	mg/kg	0.17	0.72
Aroclor-1242	mg/kg	0.23	0.95
Aroclor-1248	mg/kg	0.23	0.94
Aroclor-1254	mg/kg	0.12	0.97
Aroclor-1260	mg/kg	0.24	0.99
Dioxins/Furans			
2,3,7,8-TCDF	mg/kg	0.0000048	0.000022
Metals			
Antimony	mg/kg	3.1	47
Arsenic	mg/kg	0.68	3.0
Barium	mg/kg	1500	22000

TABLE 2.6
Summary of EPA Regional Screening Levels
APS Quality Assurance Project Plan

Analyte	**Units**	**EPA Residential Soil RSL**	**EPA Industrial Soil RSL**
Beryllium	mg/kg	16	230
Boron	mg/kg	1600	23000
Cadmium	mg/kg	7.1	98
Chromium	mg/kg	12000	180000
Cobalt	mg/kg	2.3	35
Copper	mg/kg	310	4700
Lead	mg/kg	400	800
Lithium	mg/kg	16	230
Magnesium	mg/kg	NA	NA
Mercury	mg/kg	1.1	4.6
Molybdenum	mg/kg	39	580
Nickel	mg/kg	150	2200
Selenium	mg/kg	39	580
Silver	mg/kg	39	580
Thallium	mg/kg	780	1200
Uranium	mg/kg	1.6	23
Zinc	mg/kg	2300	35000
Hexavalent Chromium	mg/kg	0.30	6.3
Cyanide			
Total cyanide	mg/kg	2.3	15

EPA RSL are May 2021 Update, HQ 0.1

EPA = U.S. Environmental Protection Agency

PCBs = Polychlorinated Bihenyls

RSL = Regional screening level

TABLE 2.7
Summary of Navajo Nation Water Quality Standards for Surface Water
APS Quality Assurance Project Plan

Table 207.1. Numeric Surface Water Quality Standards (All units are in µgil, unless otherwise indicated)

(All numeric standards are in total concentration unless otherwise indicated)

Parameter (Total concentration unless otherwise indicated)	CASNumber	Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wlldlife Acute	Aquatic & Wildlife Chronic	Agricultural Water Supply	Livestock Watering
1,1,1-Trichloroethane	71556	200	200000	200	200	2600	1600	1000	**NCNS**
1,1,2,2-Tetrachloroethane	79345	0.17	3		46670	4700	3200	**NCNS**	**NCNS**
1,1,2-Trichloroethane	79005	0.55	8.9	***25***	3730	18000	12000	**NCNS**	**NCNS**
1,1-Dichloroethene	75354		7100	230	12600	15000	*950*	**NCNS**	**NCNS**
1,2,4-Trichlorobenzene	120821	0.071	0.076	9300	9300	750	130	**NCNS**	**NCNS**
1,2,4,5-Tetrachlorobenzene	95943	0.03	0.03	NCNS	NCNS	NCNS	NCNS	**NCNS**	**NCNS**
1,2-Dichlorobenzene	95501	600	*205*	84000	84000	790	300	**NCNS**	**NCNS**
1,2-Dichloroethane	107062	0.38	**35**	**15**	186670	59000	41000	**NCNS**	**NCNS**

Table 207.1. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otheiwise indicated)

(All numeric standards are in total concentration unless otheiwise indicated)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife Acute	Aquatic & Wildlife Chronic	Agricultural Water Supply	Livestock Watering
3,3'-Dichlorobenzidine	91941	0.021	0.028	3.1	3.1	NCNS	NCNS	**NCNS**	**NCNS**
3-methvl 4-Chlorophenol	59507	500	2000	NCNS	NCNS	**15**	4.7	**NCNS**	**NCNS**
4-Bromonhenvl nhen 1 ether	101553	**NCNS**	NCNS	NCNS	NCNS	180	14	**NCNS**	**NCNS**
4-Nitrophenol	100027	**NCNS**	NCNS	NCNS	NCNS	4100	3000	**NCNS**	**NCNS**
Acemmhthene	83329	70	90	56000	56000	850	**550**	**NCNS**	**NCNS**
Acrolein	107028	3	**2**	470	470	34	30	**NCNS**	**NCNS**
Acivlonitrile	107131	0.051	0.25	3	9300	3800	**250**	**NCNS**	**NCNS**
Aldrin	309002	0.00000077	0.00000077	0.08	30	3	NCNS	0.003	0.003
Alachlor	15972608	**2**		9333	9333	2500	170		
aloha-Hexacholorcvclohexane (HCH)	319846	0.00036	0.00039	0.22	7470	1600	130	**NCNS**	**NCNS**
alnha-Endosulfan	959988	20	20	5600	5600	0.22	0.056	**NCNS**	**NCNS**
Aluminum (Al) (pH 6.5-9.0 for A&W)	7429905	**NCNS**	NCNS	NCNS	NCNS	750- See(a)	87- See(a)	20000	**NCNS**
Ammonia-N	7664417	**NCNS**	NCNS	NCNS	NCNS	See (c) and Tables 207.19 and 207.20	See (c) and Table 207.21	**NCNS**	**NCNS**
Anthracene	120127	300	**75**	280000	280000	NCNS	NCNS	**NCNS**	**NCNS**
Antimony (Sb)	7440360	**5.6**	640	747	747	88D	30D	**NCNS**	**NCNS**
Arsenic (As)	7440382	10	80	30	280	340D	150D	2000	200
Asbestos (fibersiL > 10 µm)	1332214	7000000	NCNS	NCNS	NCNS	NCNS	NCNS	**NCNS**	**NCNS**
Atrazine	1912249	3	NCNS	32667	32667	NCNS	NCNS	**NCNS**	**NCNS**
Barium (Ba)	7440393	2000	NCNS	98000	98000	NCNS	NCNS	**NCNS**	**NCNS**
Benzene	71432	0.5-2.1	16-58	93	3733	2700	180	**NCNS**	**NCNS**
Benzidine	92875	0.000086	0.00020	0.01	2800	1300	89	0.01	0.01
Benzo(a)anthracene	56553	0.0012	0.0013	0.2	0.2	**NCNS**	**NCNS**	NCNS	NCNS
Benzo(a)pyrene	50328	0.00012	0.00013	0.2	0.2	**NCNS**	**NCNS**	**NCNS**	NCNS
Benzo(b)fluoranthene	205992	0.0012	0.0013	1.9	1.9	NCNS	NCNS	**NCNS**	**NCNS**
Benzo(k)fluoranthene	207089	0.0038	0.018	1.9	1.9	NCNS	NCNS	**NCNS**	**NCNS**
Bervllium (Be)	7440417	**4**	85	1870	1870	NCNS	NCNS	500	**NCNS**
beta-Hexacholorcvclohexane (HCH)	319857	0.008	0.014	3	560	1600	130	**NCNS**	**NCNS**
beta-Endosulfan	33213659	20	20	5600	5600	0.22	0.056	**NCNS**	**NCNS**
Beta particles and photon emitters		4millirems/year	NCNS	NCNS	NCNS	NCNS	NCNS	**NCNS**	4millirems/year
Bis(2-chloroethvl)ether	111444	0.030	0.53	1.3	1.3	120000	6700	**NCNS**	**NCNS**
Bis(2-chloroisopropyl)ether	108601	200	3441	37333	37333	NCNS	NCNS	**NCNS**	**NCNS**

Table 207.1. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otherwise indicated)

(All numeric standards are in total concentration unless otherwise indicated)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Designated Uses: Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife Acute	Aquatic & Wildlife Chronic	Agricultural Water Supply	Livestock Watering
Bis(2-ethylhexyl) adipate	103231	400	NCNS	560000	560000	NCNS	NCNS	NCNS	NCNS
Bis(2-ethylhexyl)phthalate	117817	0.32	0.37	~~1200~~	18670	400	360	NCNS	NCNS
Bis(Chloromethyl) ether	542881	0.00015	0.017	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Boron	7440428	630	NCNS	126000	126000	NCNS	NCNS	2000	5000
Bromoform	75252	4.3	120	180	28000	15000	10000	NCNS	NCNS
Butyl benzyl phthalate	85687	0.1	0.1	186670	186670	1700	130	NCNS	NCNS
Cadmium (Cd)	7440439	5	8	470	470	~~See (b) and Tables 207.2 and 207.~~4 D	~~See (b) and Tables 207.3 and 207.~~5 D	50	50
Carbon tetrachloride	56235	0.23	1.6	40	650	18000	1100	NCNS	NCNS
Chlordane	57749	0.00031	0.00032	13	470	2.4	0.0043	NCNS	NCNS
Chlorine (total residual)	7782505	4000	NCNS	4000	4000	19	11	NCNS	11
Chlorobenzene	108907	100	800	18670	18670	3800	260	NCNS	NCNS
Chlorodibromomethane	124481	0.40	13	18670	18670	NCNS	NCNS	NCNS	NCNS
Chloroform	67663	5.7	470	9330	9330	14000	900	NCNS	NCNS
Chromium (Cr III + Cr VI)	7440473	100	NCNS	NCNS	NCNS	NCNS	NCNS	1000	1000
Chromium III (Cr III)	16065831	NCNS	75000	1400000	1400000	See (b) and Table 207.6 D	See (a) and Table 207.7 D	NCNS	NCNS
Chromium VI (Cr VI)	18540299	20	150	2800	2800	16 D	11 D	NCNS	NCNS
Chrysene	218019	0.0038	0.018	1	NCNS	NCNS	NCNS	NCNS	NCNS
Cobalt (Co)	7440484	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	5000	1000
Copper (Cu)	7440508	1300	NCNS	9330	9330	See (b) and Table 207.8 D	See (b) and Table 207.9 D	5000	500
Cyanide (as free Cyanide)	57125	4	140	18670	18670	22	5.2	NCNS	500
delta-BHC	319868	0.0123	0.0414	NCNS	NCNS	1600	130	NCNS	NCNS
Dibenzo(a,h)anthracene	53703	0.00012	0.00013	1	NCNS	NCNS	NCNS	NCNS	NCNS
Dibutyl phthalate	84742	20	30	93330	93330	470	35	NCNS	NCNS
Dichlorobromomethane	75274	0.55	17	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS
Dieldrin	60571	0.0000012	0.0000012	0.3	50	0.24	0.056	0.03	0.03
Diethyl phthalate	84662	600	600	74670	74670	26000	1600	NCNS	NCNS
Dimethyl phthalate	131113	2000	2000	NCNS	NCNS	17000	1000	NCNS	NCNS

Table 207.1. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otheiwise indicated)

(All numeric standards are in total concentration unless otheiwise indicated)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife Acute	Aquatic & Wildlife Chronic	Agricultural Water Supply	Livestock Watering
Dinoseb	88857	7	NCNS	933	933	NCNS	NCNS	**NCNS**	**NCNS**
Dinitroohenols	25550587	10	1000	NCNS	NCNS	NCNS	NCNS	**NCNS**	**NCNS**
Dinuat	85007	20	NCNS	2053	2053	NCNS	NCNS	**NCNS**	**NCNS**
Endosulfan sulfate	1031078	20	20	5600	5600	0.2	0.06	**NCNS**	**NCNS**
Endosulfan (Total)	115297	40	20	5600	5600	0.2	0.06	**NCNS**	**NCNS**
Endothall	145733	100	NCNS	18667	18667	NCNS	NCNS	**NCNS**	**NCNS**
Endrin	72208	0.03	0.03	280	280	0.086	0.036	0.004	0.004
Endrin aldehvde	7421934	0.29	0.3	NCNS	NCNS	0.086	0.036	**NCNS**	**NCNS**
Eth !benzene	100414	68	130	93330	93330	23000	1400	**NCNS**	**NCNS**
Fluoranthene	206440	20	20	37330	37330	2000	1600	**NCNS**	**NCNS**
Fluorene	86737	,0	70	37330	37330	**NCNS**	NCNS	**NCNS**	**NCNS**
Fluoride	16984488	4000	NCNS	140000	140000	NCNS	NCNS	15000	2000
amma-Hexacholorcvclohexane (HCH)	58899	4.2	4.4	NCNS	NCNS	NCNS	NCNS	**NCNS**	**NCNS**
Glvohosate	1071836	700	266667	93333	93333	NCNS	NCNS	**NCNS**	**NCNS**
Guthion	86500	**NCNS**	NCNS	NCNS	NCNS	NCNS	0.01	**NCNS**	**NCNS**
Gross Al ha(oCiiL)(See(d))		**15**	NCNS	NCNS	NCNS	NCNS	NCNS	**NCNS**	**15**
Hentachlor	76448	0.0000059	0.0000059	1	470	0.52	0.0036	**NCNS**	**NCNS**
Heotachlor eooxide	1024573	0.000032	0.000032	1	12	0.52	0.0036	**NCNS**	**NCNS**
Hexachlorobenzene	118741	0.000079	0.000079	1	750	6.0	3.7	**NCNS**	**NCNS**
Hexachlorobutadiene	87683	0.01	0.01	18	190	**45**	8	**NCNS**	**NCNS**
Hexachlorocvclohexane (Lindane)	58899	0.2	1.8	280	280	0.95	**NCNS**	**NCNS**	**NCNS**
Hexachlorocvclohexane (HCH)-Technical	608731	0.0066	0.01	NCNS	NCNS	NCNS	NCNS	**NCNS**	**NCNS**
Hexachlorocvclonentadiene	77474	**4**	**4**	5600	5600	**3.5**	0.3	**NCNS**	**NCNS**
Hexachloroethane	67721	0.1	0.1	330	930	490	**350**	**NCNS**	**NCNS**
Indeno(l,2,3-cd)nvrene	193395	0.0012	0.0013	NCNS	NCNS	NCNS	NCNS	**NCNS**	**NCNS**
Isoohorone	78591	34	960	4910	186670	59000	43000	**NCNS**	**NCNS**
Lead (Pb)	7439921	**15**	NCNS	**15**	**15**	See (b) and Table 207.lOD	See (b) and Table 207.11 D	10000	100
Man2anese	7439965	980	NCNS	18667	18667	NCNS	NCNS	10000	**NCNS**
Mercur,(Hiz:)	7439976	**2**	0.15	280	280	2.4 (D)	0.012 (D)	**NCNS**	10
Methvhnercuiv (m /k2 fish)		**NCNS**	0.3	NCNS	NCNS	NCNS	NCNS	**NCNS**	**NCNS**
Methoxvchlor	72435	0.02	0.02	4670	4670	NCNS	NCNS	**NCNS**	**NCNS**
Methvl bromide	74839	10	300	NCNS	NCNS	5500	360	**NCNS**	**NCNS**
Methvl chloride	74873	**NCNS**	NCNS	NCNS	NCNS	270000	15000	**NCNS**	**NCNS**
Methvlene chloride	75092	4.6	590	620	56000	97000	5500	**NCNS**	**NCNS**
Mo! bdenum (Mo)	7439987	**NCNS**	NCNS	NCNS	NCNS	NCNS	NCNS	**50**	**NCNS**
N:mhthalene	91203	140	1520	18670	18670	1100	210	**NCNS**	**NCNS**
Nickel (Ni)	7440020	610	4600	18670	18670	See (b) and Table 207.12D	See (b) and Table 207.13 D	2000	**NCNS**

Table 207.1. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otheiwise indicated)

(All numeric standards are in total concentration unless otheiwise indicated)

Parameter (Total concentration unless otherwise indicated)	CAS Number	Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic & Wildlife Acute	Aquatic & Wildlife Chronic	Agricultural Water Supply	Livestock Watering
Nitrate-N	14797558	10000	NCNS	1493330	1493330	NCNS	NCNS	**NCNS**	**NCNS**
Nitrite-N	14797650	1000	NCNS	93330	93330	NCNS	NCNS	**NCNS**	**NCNS**
Nirite+Nitrate-N *(m;.JL)*		**NCNS**	NCNS	NCNS	NCNS	NCNS	NCNS	**NCNS**	100
Nitrobenzene	98953	10	600	470	470	13000	850	**NCNS**	**NCNS**
n-Nitrosodimeth !amine	62759	0.00069	3	0.1	0.1	NCNS	NCNS	**NCNS**	**NCNS**
n-Nitrosodi-n-oroovlamine	621647	0.005	0.51	1	88670	NCNS	NCNS	**NCNS**	**NCNS**
n-Nitrosodinhen !amine	86306	**3.3**	6	*950*	*950*	2900	200	**NCNS**	**NCNS**
,o'-DDD (o,o-Dichlorodiohen ldichloroethane)	72548	0.00012	0.00012	**5.8**	**5.8**	1.1	0.001	0.001	0.001
,n'-DDE (n,n-Dichlorodinhenvldichloroethene)	72559	0.000018	0.000018	4.1	4.1	1.1	0.001	0.001	0.001
,o'-DDT (o,o-Dichlorodiohenvltrichloroethane)	50293	0.00003	0.00003	4.1	700	1.1	0.001	0.001	0.001
Pentachlorobenzene	608935	0.1	0.1	**NCNS**	**NCNS**	**NCNS**	NCNS	**NCNS**	**NCNS**
Pentachloronhenol	87865	0.03	0.0	40	28000	See (c) and Table 207.16	See (c) and Table 207.17	**NCNS**	**NCNS**
Phenanthrene	85018	NCNS	**NCNS**	**NCNS**	**NCNS**	30	6.3	**NCNS**	**NCNS**
Phenol	108952	2100	35	280000	280000	5100	730	**NCNS**	**NCNS**
Pol chlorinated biohenvls (PCBs)	1336363	0.5	0.000064	19	19	2.0	0.014	0.001	0.001
Pvrene	129000	20	30	28000	28000	NCNS	NCNS	**NCNS**	**NCNS**
Radium 226 + 228 (oCiiL)		**5**	NCNS	NCNS	NCNS	NCNS	NCNS	**5**	**5**
Selenium (Se)	7782492	50	670	4670	4670	33	2	20	50
Silver(Ag)	7440224	35	8000	4670	4670	See (b) and Table 207.16D	NCNS	**NCNS**	**NCNS**
Strontium 90 (oCi!L)		8	NCNS	NCNS	NCNS	NCNS	NCNS	8	8
Tetrachloroethene	127184	**5**	3.3	9330	9330	2600	280	**NCNS**	**NCNS**
Thallium *(Tl)*	7440280	2	1	75	75	700D	150D	**NCNS**	**NCNS**
Toluene	108883	57	520	74670	74670	8700	180	**NCNS**	**NCNS**
Toxaohene	8001352	0.00028	0.00028	4	930	0.73	0.0002	0.005	0.005
Trichloroethene	79016	0.6	7	360	2800	20000	1300	**NCNS**	**NCNS**
Tritium (oCi!L)	10028178	20000	NCNS	NCNS	NCNS	NCNS	NCNS	**NCNS**	20000

Table 207.1. Numeric Surface Water Quality Standards (continued)

(All units are in µg/L unless otheiwise indicated)

(All numeric standards are in total concentration unless otheiwise indicated)

Parameter (Total concentration unless otheiwise indicated)	CASNumber	Domestic Water Supply	Fish Consumption	Primary Human Contact	Secondary Human Contact	Aquatic& Wildlife Acute	Aquatic& Wildlife Chronic	Agricultural Water Supply	Livestock Watering
UraniumfUl	7440611	30	NCNS	2800	2800	NCNS	NCNS	NCNS	NCNS
Vanadium fVl	7440622	NCNS	NCNS	NCNS	NCNS	NCNS	NCNS	1000	100
Vinvl Chloride	75014	0.002	1.6	6	2800	NCNS	NCNS	NCNS	NCNS
X lenes fTotall	1330207	10000	NCNS	186670	186670	NCNS	NCNS	NCNS	NCNS
Zinc (Zn)	7440666	2100	5100	280000	280000	See (b) and Table 207.17 D	See (b) and Table 207.18 D	10000	25000

Footnotes:

a. The A&W aluminum standard is for acid-soluble aluminum.

Acid soluble aluminum is defined as the aluminum that passes through a 0.45 µm membrane filter after the sample has been acidified to a pH between 1.5 and 2.0 with nitric acid.

b. Hardness, expressed as mg/L calcium carbonate, is inserted into the equation where it says "hardness". The hardness-dependent formulae for metals shall be valid only for hardness values from Oto 400 mg/L calcium carbonate. For values above 400 mg/L, the value for 400 mg/L. Hardness analysis is done from a dissolved water sample.

c. The pH is inserted into the equation where it says "pH". pH is determined according to the following criteria:

If the water body has an Aquatic and Wildlife Habitat designated use, then the pH is based on the pH of either the effluent (for a point source discharge) or the water body from a sample taken at the same time that the sample for pentachlorophenol is taken.

c. Abbreviations: NCNS = No Current Numeric Standard D = Dissolved mg = milligram(s) µg= microgram(s) µm= micrometer(s)

L = Liter N = Nitrogen pCi- picocurie(s)

CAS Number - Chemical Abstracts Service (CAS) Registry Numbers are unique numerical identifiers assigned to chemical substances recorded in the CAS Chemical Registry System.

d. Compliance with the gross alpha numeric standard of 15 pCi/L is determined according to the following criteria:

For values above 15 pCi/L subtract the radon and uranium activity (in pCi/L) from the gross alpha value to determine the reported gross alpha value.

If radon gas is removed during the gross alpha analytical method, only subtract the uranium activity value.

Uranium activity in pCi/L is determined from the uranium concentration in (ug/L) according to the following formula:

Uranium (pCi/L) = (uranium (ug/L)) X 0.67

TABLE 3.1
Soil and Solid Analytical Methods
APS Quality Assurance Project Plan

Analyses	Preparation Method	Test Method
Soil Samples		
VOCs	EPA 3585, 5021, 5032, 5035	EPA 8260B or C
TCLP VOCs	EPA 1311 and 5030B	EPA 8260B or C
SVOCs	EPA 3540C, 3541, 3545, 3546, 3550	EPA 8270 C or D
TCLP SVOCs	EPA 1311, 3510C, 3520C	EPA 8270C or D
PAHs	EPA 3540C, 3541, 3545, 3546, 3550	SW8270C or D-SIM
Organochlorine Pesticides	EPA 3540C, 3541, 3545, 3546, 3550	EPA 8081A or B
TCLP Pesticides	EPA 1311, 3510C, 3520C	EPA 8081A or B
Polychlorinated Biphenyls	EPA 3540C, 3541, 3545, 3546, 3550 EPA 3665A (acid cleanup) if needed	EPA 8082 or 8082A
TPHg (GRO – C_6 to C_{10})	ADHS 8015 AZR1	ADHS 8015 AZR1
TPHd as (DRO – C_{10} to C_{22})	ADHS 8015 AZR1	ADHS 8015 AZR1
TPHo as (ORO – C_{22} to C_{32})	ADHS 8015 AZR1	ADHS 8015 AZR1
Dioxins/Furans	per analytical method	EPA 1613A or B or EPA 8290
Metals	EPA 3050B, 3051	EPA 6010B or C/SW6020/7471A or B
TCLP/SPLP Metals	EPA 1311, EPA 1312 and 3005A	EPA 6010B or C/SW6020/7471A or B
Hexavalent Chromium	EPA 3060A	EPA 7196A or EPA 7199
Total Cyanide	EPA 9013 (extraction) and EPA 9010 (distillation)	EPA 9014
Extractable Sulfide	-	EPA 9031
Acid-soluble and acid-insoluble Sulfide	EPA 9030B	EPA 9034
Total organic carbon	-	EPA 9060
Ignitability	-	EPA 1030
pH	-	EPA 9045C
Paint filter test	-	EPA 9095B

Notes:
EPA = Environmental Protection Agency
ADHS = Arizona Department of Health Services
GRO = Gasoline range organics
DRO = Diesel range organics
ORO = Oil range organics
PAH = Polycyclic aromatic hydrocarbon
SVOC = Semivolatile organic compound
TCLP = Toxicity Characteristic Leaching Procedure
TPHd = Total petroleum hydrocarbons diesel
TPHg = Total petroleum hydrocarbons gasoline
TPHo = Total petroleum hydrocarbons oil
VOC = Volatile organic compound

Table 3.2
Aqueous Analytical Methods
APS Quality Assurance Project Plan

Analyses	Preparation Method	Test Method
Aqueous Samples		
VOCs	EPA 5030B, 5031, 5032	EPA 624 or EPA 8260B or C
SVOCs	EPA 3510C or 3520C	EPA 625 or EPA 8270C or D
PAHs	EPA 3510C, 3520C, 3535	SW8270C or D-SIM
TPHg (GRO – C_6 to C_{10})	EPA 5030B, 5031	EPA 8015B, C or D
TPHd as (DRO – C_{10} to C_{22})	EPA 3510C, 3520C	EPA 8015B, C or D
TPHo as (ORO – C_{22} to C_{32})	EPA 3510C, 3520C	EPA 8015B, C or D
Organochlorine Pesticides	EPA 3510C, 3520C, 3535	EPA 608 or EPA 8081 A or B
Polychlorinated Biphenyls	EPA 3510C, 3520C, 3535 EPA 3665A (sulfuric acid cleanup)	EPA 608 or EPA 8082 or EPA 8082A
Dioxins and Furans	Per analytical method	EPA 1613A or B or SW8290
Metals	EPA 3005A, 3010A, 3015	EPA 6010B or C/SW6020/7470A or B EPA 200.7/200.8[a]/245.1
Hexavalent Chromium	-	EPA 7196A or EPA 7199
Low-level Mercury	Per analytical method	EPA 1631
Sulfide	EPA 9030B	EPA 9034 or SM4500 S2
Total Cyanide	-	SM4500-CN-E
Total Cyanide	EPA 9010C	EPA 9014
Amenable Cyanide	-	SM4500 CN-G
Weak Acid Dissociable Cyanide	-	SM4500 CN-I
Ammonia	-	SM4500-NH3 B, D, E
Total Kjeldahl Nitrogen	-	SM4500-Norg A, B, C, D
Chloride, Fluoride, Nitrate, Nitrite, Sulfate	-	EPA 300.0, SW9056
Nitrate/nitrite combined methods	-	SM4500NO3, EPA 353.2
Alkalinity (all forms)	-	SM2320B
Total Dissolved Solids (TDS)	-	SM2540C
Total organic carbon	-	SW9060
Asbestos	-	EPA 100.2
Radium 226 and 228 Combined	-	HPGe or EPA 903.1 and 904
fathead minnow, *Pimephales promelas*	-	Larval Survival and Growth Test Method 1000.0
daphnid, *Ceriodaphnia dubia*	-	Survival and Reproduction Test Method 1002.01
green alga, *Selenastrum capricornutum (*also named *Raphidocelis subcapitata)*	-	Growth Test Method 1003.0
Total Coliform	-	SM9223B-2004
E. Coli	-	SM9223B-2004

Table 3.2
Aqueous Analytical Methods
APS Quality Assurance Project Plan

Analyses	Preparation Method	Test Method

[a] EPA Method 200.8 with collision cell – use to minimize interferences in high TDS waters

DRO = Diesel Range Organics

EPA = United States Environmental Protection Agency

GRO = Gasoline Range Organics

HPGe = High Purity Germanium Radiation Detector

ORO = Oil Range Organics

PAH = Polynuclear aromatic hydrocarbons

SVOC = Semivolatile organic compound

TPH = Total Petroleum Hydrocarbons

VOC = Volatile organic compound

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
VOCs by EPA 8260B or C					
1,1,1,2-Tetrachloroethane	0.25	mg/kg	70	130	30
1,1,1-Trichloroethane	0.1	mg/kg	70	130	30
1,1,2,2-Tetrachloroethane	0.1	mg/kg	70	130	30
1,1,2-Trichloroethane	0.1	mg/kg	70	130	30
1,1-Dichloroethane	0.1	mg/kg	70	130	30
1,1-Dichloroethene	0.25	mg/kg	70	130	30
1,1-Dichloropropene	0.1	mg/kg	70	130	30
1,2,3-Trichlorobenzene	0.25	mg/kg	70	130	30
1,2,3-Trichloropropane	0.5	mg/kg	70	130	30
1,2,4-Trichlorobenzene	0.25	mg/kg	70	130	30
1,2,4-Trimethylbenzene	0.1	mg/kg	70	130	30
1,2-Dibromo-3-chloropropane	0.25	mg/kg	70	130	30
1,2-Dibromoethane	0.1	mg/kg	70	130	30
1,2-Dichlorobenzene	0.1	mg/kg	70	130	30
1,2-Dichloroethane	0.1	mg/kg	70	130	30
1,2-Dichloropropane	0.1	mg/kg	70	130	30
1,3,5-Trimethylbenzene	0.1	mg/kg	70	130	30
1,3-Dichlorobenzene	0.1	mg/kg	70	130	30
1,3-Dichloropropane	0.1	mg/kg	70	130	30
1,4-Dichlorobenzene	0.1	mg/kg	70	130	30
2,2-Dichloropropane	0.1	mg/kg	70	130	30
2-Butanone	0.5	mg/kg	70	130	30
2-Chloroethylvinyl ether	0.25	mg/kg	70	130	30
2-Chlorotoluene	0.25	mg/kg	70	130	30
2-Hexanone	0.5	mg/kg	70	130	30
4-Chlorotoluene	0.25	mg/kg	70	130	30
4-Methyl-2-pentanone	0.25	mg/kg	70	130	30
Acetone	0.5	mg/kg	70	130	30

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
Acrolein	0.5	mg/kg	70	130	30
Acrylonitrile	0.5	mg/kg	70	130	30
Benzene	0.1	mg/kg	70	130	30
Bromobenzene	0.25	mg/kg	70	130	30
Bromochloromethane	0.25	mg/kg	70	130	30
Bromodichloromethane	0.1	mg/kg	70	130	30
Bromoform	0.25	mg/kg	70	130	30
Bromomethane	0.25	mg/kg	70	130	30
Carbon Disulfide	0.25	mg/kg	70	130	30
Carbon Tetrachloride	0.25	mg/kg	70	130	30
Chlorobenzene	0.1	mg/kg	70	130	30
Chloroethane	0.25	mg/kg	70	130	30
Chloroform	0.1	mg/kg	70	130	30
Chloromethane	0.25	mg/kg	70	130	30
cis-1,2-Dichloroethene	0.1	mg/kg	70	130	30
cis-1,3-Dichloropropene	0.1	mg/kg	70	130	30
Dibromochloromethane	0.1	mg/kg	70	130	30
Dibromomethane	0.1	mg/kg	70	130	30
Dichlorodifluoromethane	0.25	mg/kg	70	130	30
Ethylbenzene	0.1	mg/kg	70	130	30
Hexachlorobutadiene	0.25	mg/kg	70	130	30
Iodomethane	0.1	mg/kg	70	130	30
Isopropylbenzene	0.1	mg/kg	70	130	30
Methylene chloride	0.5	mg/kg	70	130	30
Methyl-tert-butyl- ether	0.25	mg/kg	70	130	30
N-Butylbenzene	0.25	mg/kg	70	130	30
N-Propylbenzene	0.1	mg/kg	70	130	30
Naphthalene	0.25	mg/kg	70	130	30
p-Isopropyltoluene	0.1	mg/kg	70	130	30

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
sec-Butylbenzene	0.25	mg/kg	70	130	30
Styrene	0.1	mg/kg	70	130	30
tert-Butylbenzene	0.25	mg/kg	70	130	30
Tetrachloroethene	0.1	mg/kg	70	130	30
Toluene	0.1	mg/kg	70	130	30
trans-1,2-Dichloroethene	0.1	mg/kg	70	130	30
trans-1,3-Dichloropropene	0.1	mg/kg	70	130	30
Trichloroethene	0.1	mg/kg	70	130	30
Trichlorofluoromethane	0.25	mg/kg	70	130	30
Vinyl acetate	0.25	mg/kg	70	130	30
Vinyl chloride	0.25	mg/kg	70	130	30
Total xylenes	0.3	mg/kg	70	130	30
Surrogates (listed below or equivalent)					
Toluene-D8	--	--	70	130	--
4-Bromofluorobenzene	--	--	70	130	--
1,2-Dichloroethane-d4	--	--	70	130	--
Dibromofluoromethane	--	--	70	130	--
Semivolatile Organic Compounds by 8270C or D					
Acenaphthene	0.33	mg/kg	70	130	30
Acenaphthylene	0.33	mg/kg	70	130	30
Anthracene	0.33	mg/kg	70	130	30
Benz(a)anthracene	0.33	mg/kg	70	130	30
Benzo(a)pyrene	0.33	mg/kg	70	130	30
Benzo(b)fluoranthene	0.33	mg/kg	70	130	30
Benzo(g,h,i)perylene	0.33	mg/kg	70	130	30
Benzo(k)fluoranthene	0.33	mg/kg	70	130	30
Chrysene	0.33	mg/kg	70	130	30
Dibenz(a,h)anthracene	0.33	mg/kg	70	130	30
Fluoranthene	0.33	mg/kg	70	130	30

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
Fluorene	0.33	mg/kg	70	130	30
Indeno(1,2,3-cd)pyrene	0.33	mg/kg	70	130	30
2-Methylnaphthalene	0.33	mg/kg	70	130	30
Naphthalene	0.33	mg/kg	70	130	30
Phenanthrene	0.33	mg/kg	70	130	30
Pyrene	0.33	mg/kg	70	130	30
1,2,4-trichlorobenzene	0.33	mg/kg	70	130	30
1,2-Dichlorobenzene	0.33	mg/kg	70	130	30
1,2-Diphenylhydrazine	0.33	mg/kg	70	130	30
1,3-Dichlorobenzene	0.33	mg/kg	70	130	30
1,4-Dichlorobenzene	0.33	mg/kg	70	130	30
2,4-Dinitrotoluene	0.33	mg/kg	70	130	30
2,6-Dinitrotoluene	0.33	mg/kg	70	130	30
2,4,5-Trichlorophenol	1.6	mg/kg	70	130	30
2,4,6-Trichlorophenol	0.33	mg/kg	70	130	30
2,4-Dichlorophenol	0.33	mg/kg	70	130	30
2,4-Dimethylphenol	0.33	mg/kg	70	130	30
2,4-Dinitrophenol	1.6	mg/kg	70	130	30
2-Chloronaphthalene	0.33	mg/kg	70	130	30
2-Chlorophenol	0.33	mg/kg	70	130	30
2-Methylphenol	0.33	mg/kg	70	130	30
2-Nitroaniline	1.6	mg/kg	70	130	30
2-Nitrophenol	0.33	mg/kg	70	130	30
3-Nitroaniline	1.6	mg/kg	70	130	30
2-Methyl-4,6-Dinitrophenol	1.6	mg/kg	70	130	30
3,3'-Dichlorobenzidine	0.33	mg/kg	70	130	30
4-Bromophenyl-phenyl ether	0.33	mg/kg	70	130	30
4-Chlorophenyl-phenyl ether	0.33	mg/kg	70	130	30
4-Chloro-3-methylphenol	1.6	mg/kg	70	130	30

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
4-Chloroaniline	0.33	mg/kg	70	130	30
3&4-Methylphenol	0.33	mg/kg	70	130	30
4-Nitroaniline	1.6	mg/kg	70	130	30
4-Nitrophenol	1.6	mg/kg	70	130	30
Benzidine	0.33	mg/kg	70	130	30
Benzoic Acid	1.6	mg/kg	70	130	30
Benzyl Alcohol	1.6	mg/kg	70	130	30
Bis(2-Chloroethyl)Ether	0.33	mg/kg	70	130	30
Bis(2-Chloroisopropyl)Ether	0.33	mg/kg	70	130	30
Bis(2-Ethylhexyl)Phthalate	0.33	mg/kg	70	130	30
Bis(2-chloroethoxy)methane	0.33	mg/kg	70	130	30
Butylbenzylphthalate	0.33	mg/kg	70	130	30
Dibenzofuran	0.33	mg/kg	70	130	30
Diethylphthalate	0.33	mg/kg	70	130	30
Dimethylphthalate	0.33	mg/kg	70	130	30
Di-n-Butylphthalate	0.33	mg/kg	70	130	30
Di-n-Octylphthalate	0.33	mg/kg	70	130	30
Hexachlorobenzene	0.33	mg/kg	70	130	30
Hexachlorobutadiene	0.33	mg/kg	70	130	30
Hexachlorocyclopentadiene	0.33	mg/kg	70	130	30
Hexachloroethane	0.33	mg/kg	70	130	30
Isophorone	0.33	mg/kg	70	130	30
Nitrobenzene	0.33	mg/kg	70	130	30
N-Nitroso-dimethylamine	0.33	mg/kg	70	130	30
N-Nitroso-di-n-Propylamine	0.33	mg/kg	70	130	30
N-Nitrosodiphenylamine	0.33	mg/kg	70	130	30
Pentachlorophenol	1.6	mg/kg	70	130	30
Phenol	0.33	mg/kg	70	130	30
Surrogates (listed below or equivalent)					

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
2,4,6-Tribromophenol	--	--	70	130	--
Phenol-d5	--	--	70	130	--
2-Fluorobiphenyl	--	--	70	130	--
Nitrobenzene-d5	--	--	70	130	--
2-fluorobiphenol	--	--	70	130	--
Terphenyl-d14	--	--	70	130	--
Polynuclear Aromatic Hydrocarbons by SW8270C or D-SIM					
Acenaphthene	0.1	mg/kg	70	130	30
Acenaphthylene	0.1	mg/kg	70	130	30
Anthracene	0.01	mg/kg	70	130	30
Benz(a)anthracene	0.01	mg/kg	70	130	30
Benzo(a)pyrene	0.005	mg/kg	70	130	30
Benzo(b)fluoranthene	0.01	mg/kg	70	130	30
Benzo(g,h,i)perylene	0.01	mg/kg	70	130	30
Benzo(k)fluoranthene	0.01	mg/kg	70	130	30
Chrysene	0.01	mg/kg	70	130	30
Dibenz(a,h)anthracene	0.005	mg/kg	70	130	30
Fluoranthene	0.01	mg/kg	70	130	30
Fluorene	0.01	mg/kg	70	130	30
Indeno(1,2,3-cd)pyrene	0.01	mg/kg	70	130	30
Naphthalene	0.1	mg/kg	70	130	30
Phenanthrene	0.01	mg/kg	70	130	30
Pyrene	0.01	mg/kg	70	130	30
Surrogate (listed below or equivalent)					
2-Methylanthracene	--	--	70	130	--
TPH by ADHS 8015AZR1					
Volatile TPH					
GRO (C_6 – C_{10})	20	mg/kg	70	130	30
Volatile surrogate (listed below or equivalent)					

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
2-Bromofluorobenzene	--	--	70	130	--
Extractable TPH					
DRO (C_{10} – C_{22})	30	mg/kg	70	130	30
ORO (C_{22} – C_{32})	100	mg/kg	70	130	30
Extractable surrogate (listed below or equivalent)					
Docosane	--	--	70	30	--
Organochlorine Pesticides by EPA 8081A or B					
4,4'-DDD	3.3	µg/kg	70	130	30
4,4'-DDE	3.3	µg/kg	70	130	30
4,4'-DDT	3.3	µg/kg	70	130	30
Aldrin	1.7	µg/kg	70	130	30
alpha-BHC	1.7	µg/kg	70	130	30
beta-BHC	1.7	µg/kg	70	130	30
delta-BHC	1.7	µg/kg	70	130	30
gamma-BHC	1.7	µg/kg	70	130	30
alpha-Chlordane	1.7	µg/kg	70	130	30
gamma-Chlordane	1.7	µg/kg	70	130	30
Chlordane	3.3	µg/kg	70	130	30
Dieldrin	3.3	µg/kg	70	130	30
Endosulfan I	3.3	µg/kg	70	130	30
Endosulfan II	3.3	µg/kg	70	130	30
Endosulfan Sulfate	3.3	µg/kg	70	130	30
Endrin	3.3	µg/kg	70	130	30
Endrin Aldehyde	3.3	µg/kg	70	130	30
Endrin Ketone	3.3	µg/kg	70	130	30
Heptachlor	1.7	µg/kg	70	130	30
Heptachlor Epoxide	1.7	µg/kg	70	130	30
Methoxychlor	17	µg/kg	70	130	30
Toxaphene	170	µg/kg	70	130	30

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
Surrogates (listed below or equivalent)					
DCBP	--	--	70	130	--
TCMX	--	--	70	130	--
PCBs by EPA 8082 or 8082A					
Aroclor-1016	33	µg/kg	70	130	30
Aroclor-1221	67	µg/kg	70	130	30
Aroclor-1232	33	µg/kg	70	130	30
Aroclor-1242	33	µg/kg	70	130	30
Aroclor-1248	33	µg/kg	70	130	30
Aroclor-1254	33	µg/kg	70	130	30
Aroclor-1260	33	µg/kg	70	130	30
Surrogate (listed below or equivalent)					
DCBP	--	--	70	130	--
Dioxins/Furans by EPA 1613A or B or EPA 8290					
2,3,7,8-TCDF	1	pg/g	70	130	30
2,3,7,8-TCDD	1	pg/g	70	130	30
1,2,3,7,8-PeCDF	5	pg/g	70	130	30
2,3,4,7,8-PeCDF	5	pg/g	70	130	30
1,2,3,7,8-PeCDD	5	pg/g	70	130	30
1,2,3,4,7,8-HxCDF	5	pg/g	70	130	30
1,2,3,6,7,8-HxCDF	5	pg/g	70	130	30
2,3,4,6,7,8-HxCDF	5	pg/g	70	130	30
1,2,3,7,8,9-HxCDF	5	pg/g	70	130	30
1,2,3,4,7,8-HxCDD	5	pg/g	70	130	30
1,2,3,6,7,8-HxCDD	5	pg/g	70	130	30
1,2,3,7,8,9-HxCDD	5	pg/g	70	130	30
1,2,3,4,6,7,8-HpCDF	5	pg/g	70	130	30
1,2,3,4,7,8,9-HpCDF	5	pg/g	70	130	30
1,2,3,4,6,7,8-HpCDD	5	pg/g	70	130	30

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
OCDF	10	pg/g	70	130	30
OCDD	10	pg/g	70	130	30
Metals by EPA 6010B or C/SW6020/7471A or B					
Antimony	0.5	mg/kg	80	120	20
Arsenic	5.0	mg/kg	80	120	20
Barium	1.0	mg/kg	80	120	20
Beryllium	0.5	mg/kg	80	120	20
Boron	0.5	mg/kg	80	120	20
Cadmium	0.5	mg/kg	80	120	20
Chromium	2.0	mg/kg	80	120	20
Cobalt	1.0	mg/kg	80	120	20
Copper	0.5	mg/kg	80	120	20
Lead	2.5	mg/kg	80	120	20
Lithium	1.0	mg/kg	80	120	20
Magnesium	10	mg/kg	80	120	20
Mercury	0.02	mg/kg	80	120	20
Molybdenum	0.5	mg/kg	80	120	20
Nickel	0.5	mg/kg	80	120	20
Potassium	10	mg/kg	80	120	20
Selenium	10	mg/kg	80	120	20
Silver	2.5	mg/kg	80	120	20
Sodium	10	mg/kg	80	120	20
Thallium	0.5	mg/kg	80	120	20
Uranium	0.5	mg/kg	80	120	20
Zinc	0.5	mg/kg	80	120	20
Hexavalent Chromium by EPA 7196A/7199					
Hexavalent Chromium by 7196A	1	mg/kg	80	120	20
Hexavalent Chromium by 7199	0.1	mg/kg	80	120	20
Sulfide by EPA 9031/9034					

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
Sulfide	1	mg/kg	80	120	20
Cyanide by EPA 9014					
Total cyanide	0.5	mg/kg	70	130	30
Other Methods: EPA 1030, EPA 9045C, EPA 9095B and EPA 9060					
Ignitability (EPA 1030)	NA	Y	NA	NA	NA
pH (EPA9045C)	NA	pH units	90	110	10
Paint Filter Free Liquid Test (EPA 9095B)	NA	Y/N	NA	NA	NA
Total organic carbon (SW9060)	1	mg/kg	80	120	30
TCLP Volatile Organic Compounds EPA 1311/8260B or C					
1,1-Dichloroethene	0.025	mg/L	70	130	30
1,2-Dichloroethane	0.01	mg/L	70	130	30
2-Butanone	0.1	mg/L	70	130	30
Benzene	0.05	mg/L	70	130	30
Carbon Tetrachloride	0.01	mg/L	70	130	30
Chlorobenzene	0.025	mg/L	70	130	30
Chloroform	0.01	mg/L	70	130	30
Tetrachloroethene	0.01	mg/L	70	130	30
Trichloroethene	0.01	mg/L	70	130	30
Vinyl chloride	0.01	mg/L	70	130	30
Surrogates (listed below or equivalent)					
Toluene-D8	--	--	70	130	--
4-Bromofluorobenzene	--	--	70	130	--
1,2-Dichloroethane-d4	--	--	70	130	--
Dibromofluoromethane	--	--	70	130	--
TCLP Semi-Volatile Organic Compounds EPA 1311/8270C or D					
2-Methylphenol	0.5	mg/L	70	130	30
3&4-Methylphenol	0.5	mg/L	70	130	30
1,4-Dichlorobenzene	0.5	mg/L	70	130	30

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
2.4-Dinitrotoluene	0.1	mg/L	70	130	30
Hexachlorobenzene	0.1	mg/L	70	130	30
Hexachlorobutadiene	0.2	mg/L	70	130	30
Hexachloroethane	0.5	mg/L	70	130	30
Nitrobenzene	0.5	mg/L	70	130	30
Pentachlorophenol	0.5	mg/L	70	130	30
Pyridine	0.5	mg/L	70	130	30
2,4,6-Trichlorophenol	0.5	mg/L	70	130	30
2,4,5-Trichlorophenol	0.5	mg/L	70	130	30
Surrogates (listed below or equivalent)					
2,4,6-Tribromophenol	--	--	70	130	--
Phenol-d5	--	--	70	130	--
2-Fluorobiphenyl	--	--	70	130	--
Nitrobenzene-d5	--	--	70	130	--
2-fluorobiphenol	--	--	70	130	--
Terphenyl-d14	--	--	70	130	--
TCLP Organochlorine Pesticides EPA 1311/8081A or B					
gamma-BHC	0.1	mg/L	70	130	30
Endrin	0.01	mg/L	70	130	30
Heptachlor	0.005	mg/L	70	130	30
Heptachlor Epoxide	0.005	mg/L	70	130	30
Methoxylchlor	0.1	mg/L	70	130	30
Toxaphene	0.1	mg/L	70	130	30
Surrogates (listed below or equivalent)					
DCBP	--	--	70	130	--
TCMX	--	--	70	130	--
TCLP Metals EPA 1311, 6010B or C/SW6020/7470A or B (LCS/LCSD and MS/MSD)					
Arsenic	0.5	mg/L	80	120	20
Barium	10	mg/L	80	120	20

Table 3.3
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Soil and Solid Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative Percent Difference Limit[b]
Cadmium	0.05	mg/L	80	120	20
Chromium	0.1	mg/L	80	120	20
Lead	0.5	mg/L	80	120	20
Mercury	0.002	mg/L	80	120	20
Selenium	0.6	mg/L	80	120	20
Silver	0.5	mg/L	80	120	20

[a] If facility permit limits are lower than the reporting limit provided in this table, actual laboratory detection and reporting limits will be used that are capable of demonstrating compliance with the permit

[b] Control limits provided are default, generic limits. In-house statistically derived control limits may be used in lieu of generic limits.

DRO = Diesel range organic

GRO = Gasoline range organic

LCS/LCSD = Lab control sample/lab control sample duplicate

mg/kg = milligrams per kilogram

mg/L = milligram per liter

MS/MSD = Matrix spike/ Matrix Spike Duplicate

NA = Not applicable

ORO = Oil range organic

Pg/g = pictograms per gram

QAPP = Quality Assurance Project Plan

RL = Reporting Limit

TCLP = Toxicity Characteristic Leaching Procedure

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]
VOCs by EPA 8260B or C or EPA 624					
1,1,1,2-Tetrachloroethane	5	µg/L	70	130	30
1,1,1-Trichloroethane[c]	2	µg/L	70	130	30
1,1,2,2-Tetrachloroethane[c]	2	µg/L	70	130	30
1,1,2-Trichloroethane[c]	2	µg/L	70	130	30
1,1-Dichloroethane[c]	2	µg/L	70	130	30
1,1-Dichloroethene[c]	5	µg/L	70	130	30
1,1-Dichloropropene	2	µg/L	70	130	30
1,2,3-Trichlorobenzene	5	µg/L	70	130	30
1,2,3-Trichloropropane	10	µg/L	70	130	30
1,2,4-Trichlorobenzene[c]	5	µg/L	70	130	30
1,2,4-Trimethylbenzene	2	µg/L	70	130	30
1,2-Dibromo-3-chloropropane	5	µg/L	70	130	30
1,2-Dibromoethane	2	µg/L	70	130	30
1,2-Dichlorobenzene[c]	2	µg/L	70	130	30
1,2-Dichloroethane[c]	2	µg/L	70	130	30
1,2-Dichloropropane[c]	2	µg/L	70	130	30
1,3,5-Trimethylbenzene	2	µg/L	70	130	30
1,3-Dichlorobenzene[c]	2	µg/L	70	130	30
1,3-Dichloropropane	2	µg/L	70	130	30
1,4-Dichlorobenzene[c]	2	µg/L	70	130	30
2,2-Dichloropropane	2	µg/L	70	130	30
2-Butanone	10	µg/L	70	130	30
2-Chloroethylvinyl ether[c]	5	µg/L	70	130	30
2-Chlorotoluene	5	µg/L	70	130	30
2-Hexanone	10	µg/L	70	130	30
4-Chlorotoluene	5	µg/L	70	130	30
4-Methyl-2-pentanone	5	µg/L	70	130	30
Acetone	20	µg/L	70	130	30
Acrolein[c]	10	µg/L	70	130	30
Acrylonitrile[c]	10	µg/L	70	130	30

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]
Benzene[c]	2	µg/L	70	130	30
Bromobenzene	5	µg/L	70	130	30
Bromochloromethane	5	µg/L	70	130	30
Bromodichloromethane[c]	2	µg/L	70	130	30
Bromoform[c]	5	µg/L	70	130	30
Bromomethane[c]	5	µg/L	70	130	30
Carbon Disulfide	5	µg/L	70	130	30
Carbon Tetrachloride[c]	5	µg/L	70	130	30
Chlorobenzene[c]	2	µg/L	70	130	30
Chloroethane[c]	5	µg/L	70	130	30
Chloroform[c]	2	µg/L	70	130	30
Chloromethane[c]	5	µg/L	70	130	30
cis-1,2-Dichloroethene	2	µg/L	70	130	30
cis-1,3-Dichloropropene[c]	2	µg/L	70	130	30
Dibromochloromethane[c]	2	µg/L	70	130	30
Dibromomethane	2	µg/L	70	130	30
Dichlorodifluoromethane	5	µg/L	70	130	30
Ethylbenzene[c]	2	µg/L	70	130	30
Hexachlorobutadiene[c]	5	µg/L	70	130	30
Iodomethane	2	µg/L	70	130	30
Isopropylbenzene	2	µg/L	70	130	30
Methylene chloride[c]	5	µg/L	70	130	30
Methyl-tert-butyl- ether	5	µg/L	70	130	30
N-Butylbenzene	5	µg/L	70	130	30
N-Propylbenzene	2	µg/L	70	130	30
Naphthalene[c]	5	µg/L	70	130	30
p-Isopropyltoluene	2	µg/L	70	130	30
sec-Butylbenzene	5	µg/L	70	130	30
Styrene	2	µg/L	70	130	30
tert-Butylbenzene	5	µg/L	70	130	30
Tetrachloroethene[c]	2	µg/L	70	130	30

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]
Toluene[c]	2	µg/L	70	130	30
trans-1,2-Dichloroethene[c]	2	µg/L	70	130	30
trans-1,3-Dichloropropene[c]	2	µg/L	70	130	30
Trichloroethene[c]	2	µg/L	70	130	30
Trichlorofluoromethane	5	µg/L	70	130	30
Vinyl acetate	5	µg/L	70	130	30
Vinyl chloride[c]	2	µg/L	70	130	30
Total xylenes	10	µg/L	70	130	30
Surrogates (listed below or equivalent)					
Toluene-D8	--	µg/L	70	130	--
1,2-Dichloroethane-d4	--	µg/L	70	130	--
4-Bromofluorobenzene	--	µg/L	70	130	--
Dibromofluoromethane	--	µg/L	70	130	--
SVOCs by EPA 8270C or D or EPA 625					
Acenaphthene[c]	10	µg/L	70	130	30
Acenaphthylene[c]	10	µg/L	70	130	30
Anthracene[c]	10	µg/L	70	130	30
Benz(a)anthracene[c]	10	µg/L	70	130	30
Benzo(a)pyrene[c]	10	µg/L	70	130	30
Benzo(b)fluoranthene[c]	10	µg/L	70	130	30
Benzo(g,h,i)perylene[c]	10	µg/L	70	130	30
Benzo(k)fluoranthene[c]	10	µg/L	70	130	30
Chrysene[c]	10	µg/L	70	130	30
Dibenz(a,h)anthracene[c]	20	µg/L	70	130	30
Fluoranthene[c]	10	µg/L	70	130	30
Fluorene[c]	10	µg/L	70	130	30
Indeno(1,2,3-cd)pyrene[c]	20	µg/L	70	130	30
2-Methylnaphthalene	10	µg/L	70	130	30
Naphthalene[c]	10	µg/L	70	130	30
Phenanthrene[c]	10	µg/L	70	130	30
Pyrene[c]	10	µg/L	70	130	30

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]
1,2,4-Trichlorobenzene[c]	10	µg/L	70	130	30
1,2-Dichlorobenzene[c]	10	µg/L	70	130	30
1,2-Diphenylhydrazine[c]	10	µg/L	70	130	30
1,3-Dichlorobenzene[c]	10	µg/L	70	130	30
1,4-Dichlorobenzene[c]	10	µg/L	70	130	30
2,4-Dinitrotoluene[c]	10	µg/L	70	130	30
2,6-Dinitrotoluene[c]	10	µg/L	70	130	30
2,4,5-Trichlorophenol	50	µg/L	70	130	30
2,4,6-Trichlorophenol[c]	10	µg/L	70	130	30
2,4-Dichlorophenol[c]	10	µg/L	70	130	30
2,4-Dimethylphenol[c]	10	µg/L	70	130	30
2,4-Dinitrophenol[c]	20	µg/L	70	130	30
2-Chloronaphthalene[c]	10	µg/L	70	130	30
2-Chlorophenol[c]	10	µg/L	70	130	30
2-Methylphenol	50	µg/L	70	130	30
2-Nitroaniline	50	µg/L	70	130	30
2-Nitrophenol[c]	10	µg/L	70	130	30
3-Nitroaniline	50	µg/L	70	130	30
2-Methyl-4,6-Dinitrophenol[c]	20	µg/L	70	130	30
3,3'-Dichlorobenzidine[c]	10	µg/L	70	130	30
4-Chloroaniline	10	µg/L	70	130	30
3&4-Methylphenol	50	µg/L	70	130	30
4-Bromophenyl-phenyl ether[c]	10	µg/L	70	130	30
4-Chlorophenyl-phenyl ether[c]	10	µg/L	70	130	30
4-Chloro-3-methylphenol[c]	50	µg/L	70	130	30
4-Nitroaniline	50	µg/L	70	130	30
4-Nitrophenol[c]	50	µg/L	70	130	30
Benzidine[c]	10	µg/L	70	130	30
Benzoic Acid	100	µg/L	70	130	30
Benzyl Alcohol	20	µg/L	70	130	30
Bis(2-Chloroethyl)Ether[c]	10	µg/L	70	130	30

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]
Bis(2-Chloroisopropyl)Ether[c]	10	µg/L	70	130	30
Bis(2-Ethylhexyl)Phthalate[c]	10	µg/L	70	130	30
Bis-(2-chloroethoxy)methane[c]	10	µg/L	70	130	30
Butyl benzyl phthalate[c]	20	µg/L	70	130	30
Dibenzofuran	10	µg/L	70	130	30
Diethyl phthalate[c]	20	µg/L	70	130	30
Dimethyl phthalate[c]	10	µg/L	70	130	30
Di-n-Butylphthalate[c]	20	µg/L	70	130	30
Di-n-Octylphthalate[c]	10	µg/L	70	130	30
Hexachlorobenzene	10	µg/L	70	130	30
Hexachlorobutadiene	10	µg/L	70	130	30
Hexachlorocyclopentadiene[c]	10	µg/L	70	130	30
Hexachloroethane	10	µg/L	70	130	30
Isophorone[c]	10	µg/L	70	130	30
Nitrobenzene[c]	10	µg/L	70	130	30
n-Nitrosodimethylamine[c]	10	µg/L	70	130	30
N-Nitroso-di-n-Propylamine[c]	10	µg/L	70	130	30
N-Nitrosodiphenylamine[c]	10	µg/L	70	130	30
Pentachlorophenol[c]	20	µg/L	70	130	30
Phenol[c]	10	µg/L	70	130	30
Surrogates (listed below or equivalent)					
2,4,6-Tribromophenol	--	--	70	130	--
2-Fluorobiphenyl	--	--	70	130	--
2-Fluorophenol	--	--	70	130	--
Nitrobenzene-d5	--	--	70	130	--
Phenol-d5	--	--	70	130	--
Terphenyl-d14	--	--	70	130	--
Polynuclear Aromatic Hydrocarbons by SW8270C or D-SIM					
Acenaphthene	3.0	µg/L	70	130	30
Acenaphthylene	3.0	µg/L	70	130	30
Anthracene	0.3	µg/L	70	130	30

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]
Benz(a)anthracene	0.3	µg/L	70	130	30
Benzo(a)pyrene	0.15	µg/L	70	130	30
Benzo(b)fluoranthene	0.3	µg/L	70	130	30
Benzo(g,h,i)perylene	0.3	µg/L	70	130	30
Benzo(k)fluoranthene	0.3	µg/L	70	130	30
Chrysene	0.3	µg/L	70	130	30
Dibenz(a,h)anthracene	0.15	µg/L	70	130	30
Fluoranthene	0.3	µg/L	70	130	30
Fluorene	0.3	µg/L	70	130	30
Indeno(1,2,3-cd)pyrene	0.3	µg/L	70	130	30
Naphthalene	3.0	µg/L	70	130	30
Phenanthrene	0.3	µg/L	70	130	30
Pyrene	0.3	µg/L	70	130	30
Surrogate (listed below or equivalent)					
2-methylanthracene	--	--	*70*	*130*	--
Total Petroleum Hydrocarbons by EPA 8015B, C or D					
GRO (C_6 – C_{10})	5.0	mg/L	70	130	30
DRO (C_{10} – C_{22})	5.0	mg/L	70	130	30
ORO (C_{22} – C_{32})	5.0	mg/L	70	130	30
Surrogates (listed below or equivalent)					
GRO - 2-bromofluorobenzene			70	130	
DRO and RRO - n-docosane			70	130	
Organochlorine Pesticides by EPA 8081A or B or EPA 608					
4,4'-DDD[c]	0.1	µg/L	70	130	30
4,4'-DDE[c]	0.1	µg/L	70	130	30
4,4'-DDT[c]	0.1	µg/L	70	130	30
Aldrin[c]	0.05	µg/L	70	130	30
alpha-BHC[c]	0.05	µg/L	70	130	30
beta-BHC[c]	0.05	µg/L	70	130	30
delta-BHC[c]	0.05	µg/L	70	130	30
gamma-BHC[c]	0.05	µg/L	70	130	30

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]
alpha-Chlordane	0.05	µg/L	70	130	30
gamma-Chlordane	0.05	µg/L	70	130	30
Chlordane[c]	0.1	µg/L	70	130	30
Dieldrin[c]	0.1	µg/L	70	130	30
Endosulfan I[c]	0.1	µg/L	70	130	30
Endosulfan II[c]	0.1	µg/L	70	130	30
Endosulfan Sulfate[c]	0.1	µg/L	70	130	30
Endrin[c]	0.1	µg/L	70	130	30
Endrin Aldehyde[c]	0.1	µg/L	70	130	30
Endrin Ketone	0.1	µg/L	70	130	30
Heptachlor[c]	0.05	µg/L	70	130	30
Heptachlor Epoxide[c]	0.05	µg/L	70	130	30
Methoxychlor	0.5	µg/L	70	130	30
Toxaphene[c]	5	µg/L	70	130	30
Surrogates (listed below or equivalent)					
DCBP	--	--	70	130	--
TCMX	--	--	70	130	--
PCBs by EPA 8082 or EPA 8082A or EPA 608					
Aroclor-1016[c]	0.5	µg/L	70	130	30
Aroclor-1221[c]	1	µg/L	70	130	30
Aroclor-1232[c]	0.5	µg/L	70	130	30
Aroclor-1242[c]	0.5	µg/L	70	130	30
Aroclor-1248[c]	0.5	µg/L	70	130	30
Aroclor-1254[c]	0.5	µg/L	70	130	30
Aroclor-1260[c]	0.5	µg/L	70	130	30
Surrogate (listed below or equivalent)					
DCBP	--	--	70	130	--
Dioxins/Furans by EPA 1613A or B or EPA 8290					
2,3,7,8-TCDF	1	pg/L	70	130	30
2,3,7,8-TCDD[c]	1	pg/L	70	130	30
1,2,3,7,8-PeCDF	1	pg/L	70	130	30

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]
2,3,4,7,8-PeCDF	1	pg/L	70	130	30
1,2,3,7,8-PeCDD	1	pg/L	70	130	30
1,2,3,4,7,8-HxCDF	1	pg/L	70	130	30
1,2,3,6,7,8-HxCDF	1	pg/L	70	130	30
2,3,4,6,7,8-HxCDF	1	pg/L	70	130	30
1,2,3,7,8,9-HxCDF	1	pg/L	70	130	30
1,2,3,4,7,8-HxCDD	1	pg/L	70	130	30
1,2,3,6,7,8-HxCDD	1	pg/L	70	130	30
1,2,3,7,8,9-HxCDD	1	pg/L	70	130	30
1,2,3,4,6,7,8-HpCDF	1	pg/L	70	130	30
1,2,3,4,7,8,9-HpCDF	1	pg/L	70	130	30
1,2,3,4,6,7,8-HpCDD	1	pg/L	70	130	30
OCDF	5	pg/L	70	130	30
OCDD	5	pg/L	70	130	30
Metals by EPA 6010B or C/6020/200.7/200.8[d]/245.1					
Antimony[c]	0.001	mg/L	80	120	20
Arsenic[c]	0.05	mg/L	80	120	20
Barium	0.01	mg/L	80	120	20
Beryllium[c]	0.001	mg/L	80	120	20
Boron	0.01	mg/L	80	120	20
Cadmium[c]	0.005	mg/L	80	120	20
Chromium[c]	0.01	mg/L	80	120	20
Cobalt	0.001	mg/L	80	120	20
Copper[c]	0.001	mg/L	80	120	20
Lead[c]	0.05	mg/L	80	120	20
Lithium	0.01	mg/L	80	120	20
Magnesium	2.0	mg/L	80	120	20
Mercury[c]	0.0002	mg/L	80	120	20
Molybdenum	0.01	mg/L	80	120	20
Nickel[c]	0.001	mg/L	80	120	20
Potassium	0.5	mg/L	80	120	20

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]
Selenium[c]	0.06	mg/L	80	120	20
Silver[c]	0.05	mg/L	80	120	20
Sodium	0.5	mg/L	80	120	20
Thallium[c]	0.001	mg/L	80	120	20
Uranium	0.01	mg/L	80	120	20
Zinc[c]	0.05	mg/L	80	120	20
Hexavalent Chromium by EPA 7196A/7199					
Hexavalent Chromium by 7196A	0.01	mg/L	80	120	20
Hexavalent Chromium by 7199	0.001	mg/L	80	120	20
Low-Level Mercury by EPA 1631					
Mercury	0.05	ng/L	80	120	20
Sulfide by EPA 9034 or SM4500 S2					
Sulfide	1	mg/L	80	120	20
Total Cyanide by SM4500-CN-E or EPA 9014					
Total Cyanide[c]	0.02	mg/L	80	120	20
Amenable Cyanide by SM4500-CN-G					
Amenable Cyanide	0.02	mg/L	80	120	20
Weak Acid Dissociable Cyanide by SM4500-CN-I					
Weak Acid Dissociable Cyanide	0.02	mg/L	80	120	20
Ammonia by SM4500-NH3 B, D, E					
Ammonia (LCS)	0.50	mg/L	80	120	20
Nitrate/Nitrite by SM4500NO3 or EPA 353.2					
Nitrate/nitrite	0.01	mg/L	80	120	20
Total Kjeldahl Nitrogen by SM4500Norg A or B or C or D					
Nitrate/nitrite					
Anions by EPA 300.0 or SW9056					
Nitrate	1	mg/L	80	120	20
Nitrite	1	mg/L	80	120	20
Sulfate	1	mg/L	80	120	20
Choride	1	mg/L	80	120	20
Fluoride	1	mg/L	80	120	20

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]
Total Dissolved Solids by SM2540C					
Total Dissolved Solids	1	mg/L	80	120	20
Total Organic Carbon by SW9060					
Total Organic Carbon	1	mg/L	80	120	20
Alkalinity by SM2320B					
Alkalinity as CaCO3	1	mg/L	80	120	20
Carbonate as CaCO3	1	mg/L	80	120	20
Bicarbonate as CaCO3	1	mg/L	80	120	20
Asbestos					
Asbestos[c]	NA	mfl	NA	NA	NA
Radium 226 and 228 Combined in Groundwater and Wastewater by EPA 903.1 and 904/HPGe					
Radium 226 and 228 Combined	NA	pCi/L	NA	NA	NA
Whole Effluent Toxicity(WET) by Test Method 1000.0/1002.1/1003.0					
Fathead Minnow, *Pimephales promelas*	NA		NA	NA	NA
Daphnid, *Ceriodaphnia dubia*	NA		NA	NA	NA
Green Alga, *Selenastrum capricornutum*	NA		NA	NA	NA
Microbiology by SM9223B-2004					
Total Coliform	0	cfu/100mL	NA	NA	NA
E. Coli	0	cfu/100mL	NA	NA	NA

Notes:

[a] If facility permit limits are lower than the reporting limit provided in this table, actual laboratory detection and reporting limits will be used that are capable of demonstrating compliance with the permit.

[b] Control limits provided are default, generic limits. In-house statistically derived control limits may be used in lieu of generic limits.

[c] Part of 40 CFR Part 423 Appendix A Priority Pollutants List

[d] Use EPA method 200.8 by collision cell to minimize interferences in poor quality water.

µg/L = microgram(s) per liter

cfu/100mL = colony forming units per 100 milliliters

HPGe = High Purity Germanium Radiation Detector

LCS = lab control sample

LCSD = lab control sample duplicate

mfl = fiber(s) per liter

mg/L = milligram(s) per liter

MS = matrix spike

MSD = matrix spike duplicate

Table 3.4
Summary of Analytes and QAPP Objectives for Laboratory Analyses of Aqueous Samples
APS Quality Assurance Project Plan

Analyte	RL Objective[a]	Units	Lower Control Limit[b] (%)	Upper Control Limit[b] (%)	Relative % Difference Limit[b]

ng/L = nanogram(s) per liter
pCi/L = picocurie(s) per liter
Pg/g = pictogram(s) per gram
QAPP = Quality Assurance Project Plan
RL = Reporting Limit
SM = standard method
SVOC = semivolatile organic compound
VOC = volatile organic compound

Table 3.5
Summary of Sample Containers, Preservation, Volumes, and Holding Times for Soil and Solid Sample Analyses
APS Quality Assurance Project Plan

Analytical Method	Container	Preservation	Minimum Sample Weight or Volume	Holding Time
VOCs by EPA 8260B or C	Encore™ sampler	≤6°C	5 g for Encore™	Must be delivered to the laboratory within 24 hours of collection. Laboratory has 48 hours from time of collection to analysis; extrusion and preservation in methanol; or freezing. After methanol preservation or freezing, 14 days to analysis.
	Terracore sampler	≤6°C	5 g soil/5 ml MeOH, or larger volume of soil with equal measure of MeOH	14 days to analysis
TCLP VOCs by EPA1311/8260B or C	4 oz glass with Teflon™ lined cap	≤6°C	100 g	14 days to TCLP extraction 14 days to analysis.
SVOCs by SW8270C or D	4 oz glass with Teflon™ lined cap	≤6°C	100 g	14 days to extraction, 40 days to analysis
TCLP SVOCs by EPA1311/8270C or D	4 oz glass with Teflon™ lined cap	≤6°C	100 g	14 days to TCLP extraction 7 days to extraction from TCLP 40 days to analysis after extraction
PAHs by SW8270C or D-SIM	4 oz glass with Teflon™ lined cap	≤6°C	100 g	14 days to extraction, 40 days to analysis
TPH by ADHS 8015 AZR1 (GRO-C_6 to C_{10})	Encore™ sampler	≤6°C	5 g for Encore™ 5 g soil/5 ml MeOH , or larger volume of soil with equal measure of MeOh	Encore™ 48 hrs to analysis; extrusion and preservation in methanol; or freezing. After methanol preservation or freezing, 14 days to analysis.
	Terracore sampler	≤6°C	10 g / 10 mL MeOH or 20 g / 20 mL MeOH	14 days to analysis
TPH by ADHS 8015 AZR1 (DRO-C_{10} to C_{22})	4 oz glass with Teflon™ lined cap	≤6°C	100 g	14 days to both extraction and analysis
TPHo by ADHS 8015 AZR1 (ORO-C_{22} to C_{32})	4 oz glass with Teflon™ lined cap	≤6°C	100 g	14 days to both extraction and analysis

Table 3.5
Summary of Sample Containers, Preservation, Volumes, and Holding Times for Soil and Solid Sample Analyses
APS Quality Assurance Project Plan

Analytical Method	Container	Preservation	Minimum Sample Weight or Volume	Holding Time
Dioxins/Furans by 1613A or 8290	4 oz glass with Teflon™ lined cap	≤6°C	100 g	30 days to extraction, 40 days to analysis
Organochlorine Pesticides by EPA 8081A or B	4 oz glass with Teflon™ lined cap	≤6°C	100 g	14 days to extraction, 40 days to analysis
TCLP Organochlorine Pesticides by EPA 1311/8081A or B	4 oz glass with Teflon™ lined cap	≤6°C	100 g	14 days to TCLP extraction 7 days to extraction from TCLP 40 days to analysis after extraction
PCBs by EPA 8082 or 8082A	4 oz glass with Teflon™ lined cap	≤6°C	100 g	14 days to extraction, 40 days to analysis
Metals by EPA 6010 C or D/SW6020/7471A or B	4 oz glass with Teflon™ lined cap	NA	50 g	6 months to extraction and analysis 28 days for mercury
TCLP Metals by EPA 1311/6010C or C/SW7470A or B	4 oz glass with Teflon™ lined cap	NA	100 g	6 months to leach (28 days for mercury); then 6 months to analyze (28 days for mercury)
Hexavalent Chromium by EPA 7196A/7199	4 oz glass with Teflon™ lined cap	≤6°C	10 g	30 days to extract by EPA 3060A 24 hours to analyze extract
Sulfide by EPA 9031/9034	4 oz glass with Teflon™ lined cap	Add 2N Zinc acetate until sample is moistened; ≤6°C	10 g	7 days
Total Cyanide by EPA 9014	4 oz glass with Teflon™ lined cap	≤6°C	10 g	14 days
Ignitability by EPA 1030	4 oz glass with Teflon™ lined cap	≤6°C	200 g	None
Paint Filter by EPA 9095B	4 oz glass with Teflon™ lined cap	≤6°C	100 g	None
Total Organic Carbon by SW9060	4 oz glass with Teflon™ lined cap	≤6°C	100 g	28 days
pH by EPA 9045C	4 oz glass with Teflon™ lined cap	≤6°C	50 g	Immediate

Notes:

Table 3.5
Summary of Sample Containers, Preservation, Volumes, and Holding Times for Soil and Solid Sample Analyses
APS Quality Assurance Project Plan

Analytical Method	Container	Preservation	Minimum Sample Weight or Volume	Holding Time

°C = Degrees Celsius

ADHS = Arizona Department of Health Services

DRO = Diesel Range Organics

Encore™ = Sampling device sold by En Novative Technologies, Inc. approved by EPA.

EPA = U.S. Environmental Protection Agency

g = gram(s)

GRO = Gasoline Range Organics

MeOH = Methanol

mL = milliliter

NA = Not applicable

ORO = Oil Range Organics

PAH = Polynuclear Aromatic Hydrocarbons

SM = Standard Method

TPH = Total Petroleum Hydrocarbons

TRPH = Total Recoverable Petroleum Hydrocarbons

VOCs = Volatile organic compounds

Table 3.6
Summary of Sample Containers, Preservation, Volumes, and Holding Times for Aqueous Sample Analyses
APS Quality Assurance Project Plan

Analytical Method	Container	Preservation	Minimum Sample Weight or Volume	Holding Time
VOCs by EPA 624/8260B or C	3 x 40 ml VOA with Teflon™ lined septum	HCl to pH<2, ≤6°C (note: 2-chloroethyl vinyl ether, acrolein and acrylonitrile must be collected unpreserved)	3 x 40 ml	14 days to analysis 7 days if unpreserved
SVOCs by EPA 8270C or D or EPA 625	2 x 1 L amber glass, Teflon™ lined cap	≤6°C	2 x 1 L	7 days to extraction, 40 days to analysis
PAHs by SW8270C or D-SIM	2 x 1 L amber glass, Teflon™ lined cap	≤6°C	2 x 1 L	7 days to extraction, 40 days to analysis
TPH by EPA 8015B, C or D (TPH GRO-C_6 to C_{10})	3 x 40 ml VOA with Teflon™ lined septum	HCl to pH<2, ≤6°C	3 x 40 ml	14 days to analysis
TPH byEPA 8015B, C or D (TPH (DRO-C_{10} to C_{22})	2 x 500 ml amber glass, Teflon™ lined cap	≤6°C	2 x 500 ml	7 days to extraction, 40 days to analysis
TPH by EPA 8015B, C or D (TPH ORO-C_{22} to C_{32})	2 x 500 ml amber glass, Teflon™ lined cap	≤6°C	2 x 500 ml	7 days to extraction, 40 days to analysis
Organochlorine Pesticides by EPA 8081A or B or EPA 608	2 x 1 L amber glass, Teflon™ lined cap	≤6°C	2 x 1 L	7 days to extraction, 40 days to analysis
Polychlorinated biphenyls by EPA 8082 or 8082A or EPA 608	2 x 1 L amber glass, Teflon™ lined cap	≤6°C	2 x 1 L	7 days to extraction, 40 days to analysis
Dioxins and furans by EPA 1613A or SW8290	2 x 1 L amber glass, Teflon™ lined cap	≤6°C	2 x 1 L	7 days to extraction, 40 days to analysis
Metals by SW6010B or C/SW6020/SW7470A or B/200.7/200.8/245.1	Plastic	HNO_3 to pH <2	500 ml	6 months (28 days for mercury)
Low-level mercury by EPA 1631	500ml fluoropolymer	HCl to pH<2, ≤6°C	500 ml	90 days
Hexavalent Chromium by EPA 7196A/7199	250 ml amber glass, Teflon™ lined cap	≤6°C	250 ml	24 hours
Total Cyanide by SM4500-CN-C-E, EPA9010C/9014 Amenable Cyanide by SM4500 CN-G Weak Acid Dissociable Cyanide by SM4500 CN-I	1 L amber glass, Teflon™ lined cap	NaOH to pH >12, ≤6°C	1 L	14 days
Ammonia by SM4500-NH3 B, D, E	glass or HDPE	H_2SO_4 to pH <2 ≤6°C	500 ml	28 days
Nitrate/Nitrate by EPA 353.2, SM4500NO3	glass or HDPE	H_2SO_4 to pH <2 ≤6°C	500 ml	28 days
Anions by EPA 300.0, SW9056	glass or HDPE	≤6°C	500 ml	48 hours for nitrate and nitrite 28 days for chloride and sulfate

Table 3.6
Summary of Sample Containers, Preservation, Volumes, and Holding Times for Aqueous Sample Analyses
APS Quality Assurance Project Plan

Analytical Method	Container	Preservation	Minimum Sample Weight or Volume	Holding Time
Sulfide by EPA 9030/9034 or SM4500 S2	Glass or HDPE	2N Zinc Acetate and 6N NaOH to pH>9; ≤6°C	1 L	7 days
Total organic carbon by SW9060	Glass	H_2SO_4 to pH <2 ≤6°C	500 ml	28 days
Alkalinity by SM2320B	HDPE	≤6°C	500 ml	14 days
Total Dissolved Solids by SM2540C	HDPE	≤6°C	500 ml	7 days
Asbestos by EPA 100.2	HDPE	≤6°C	1 L	48 hours
Radium-226/228 by EPA 903.1 and 904	HDPE	HNO_3 to pH <2, ≤6°C	1 L	6 months
Total Coliform and E. Coli	HDPE	≤6°C	100 ml	24 hours
Larval Survival and Growth Test Method 1000.0	HDPE	≤6°C	Minimum of 2 L	24 hours
Survival and Reproduction Test Method 1002.01	HDPE	≤6°C	Minimum of 2 L	24 hours
Growth Test Method 1003.0	HDPE	≤6°C	Minimum of 2 L	24 hours

°C = Degrees Celsius
ADHS = Arizona Department of Health Services
DRO = Diesel Range Organics
EPA = U.S. Environmental Protection Agency
GRO = Gasoline Range Organics
H_2SO_4 = Sulfuric acid
HCL = Hydrochloric acid
HDPE=High density polyethylene
HNO_3 = Nitric Acid
L = liter
ml = milliliter
NaOH = Sodium Hydroxide
ORO = Oil Range Organics
RCRA = Resource Conservation and Recovery Act
SM = Standard Method
TPH = Total Petroleum Hydrocarbons

Table 4.1
Summary of Calibration and Quality Control Procedures for Methods EPA8015B, C or D, ADHS 8015AZR1, EPA 8081A or B, EPA 8082 or 8082A, or EPA 608
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Breakdown check (Endrin/DDT Method 8081 only)	Before sample analysis and at the beginning of each 12-hour shift.	Degradation of DDT and Endrin must each be ≤15%.	Correct problem, then repeat breakdown checks.	No samples shall be run until degradation of DDT and Endrin is each ≤ 15%.
Multipoint ICAL for all analytes including surrogates. Minimum 5 levels for linear and 6 levels for quadratic. Quantitation for multicomponent analytes such as chlordane, toxaphene, and Aroclors must be performed using a 5-point calibration. Results may not be quantitated using a single point.	At instrument set-up and after ICV or CCV failure, prior to sample analysis.	Three options: Option 1: RSD for each analyte ≤ 20%; Option 2: linear least squares regression for each analyte: r2 ≥ 0.99; Option 3: non-linear least squares regression (quadratic) for each analyte: r2 ≥ 0.99.	Correct problem, then repeat ICAL.	No samples shall be analyzed until ICAL has passed.
Initial calibration verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All reported analytes within established RT windows. All reported analytes within ± 20% of true value.	Correct problem, rerun ICV. If that fails, repeat ICAL.	No samples shall be analyzed until calibration has been verified with a second source.
Continuing Calibration calibration verification (CCV)	Before sample analysis, after every 10 field samples, and at the end of the analysis sequence with the exception of CCVs for pesticides multi-component analytes (i.e. Toxaphene, Chlordane), which are only required before sample analysis.	All reported analytes within established RT windows. All reported analytes within ± 20% of true value. (30% for EPA 8015AZR1)	Recalibrate, and reanalyze all affected samples since the last acceptable CCV.	If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable calibration verification.
RT window position established for each analyte and surrogate	Each ICAL and at the beginning of the analytical sequence.	Position will be set using the midpoint standard of the ICAL curve. On days when an ICAL is not performed, the initial CCV is used.	NA	NA
RT window verification for each analyte and surrogate	Each calibration verification.	Analyte within established window.	Correct problem, then reanalyze all samples analyzed since the last acceptable RT check.	Apply J-flag to all results for the specific analyte(s) in the sample that are outside the established window.

Table 4.1
Summary of Calibration and Quality Control Procedures for Methods EPA8015B, C or D, ADHS 8015AZR1, EPA 8081A or B, EPA 8082 or 8082A, or EPA 608
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Method blank	One per preparatory batch.	No analytes detected > RL.	Correct problem. If required, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
Laboratory control sample (LCS) (must contain all target analytes to be reported, including surrogates)	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
Surrogate spike	All field and QC samples.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then re-extract and reanalyze all failed samples for failed surrogates in the associated preparatory batch.	If corrective action fails, apply J-flag to the specific analyte(s) in affected sample. Alternative surrogates are recommended when there is obvious chromatographic interference with surrogate.
MS/MSD	One per 20 project samples per matrix as a minimum, and as defined on the chain-of-custody form.	Acceptance criteria listed in LCS and MS/MSD Tables.	Assess data to determine whether there is a matrix effect or analytical error. Communicate potential matrix effects to project chemist so an evaluation can be made regarding DQOs.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.
Confirmation of positive results (second column)	All positive results must be confirmed (except for single column methods such as TPH by Method 8015 where confirmation is not an option or requirement).	Calibration and QC criteria for second column are the same as for initial or primary column analysis. Results between primary and secondary column RPD ≤ 40%.	NA	Apply J-flag if RPD > 40%. Discuss in the case narrative.

Table 4.1
Summary of Calibration and Quality Control Procedures for Methods EPA8015B, C or D, ADHS 8015AZR1, EPA 8081A or B, EPA 8082 or 8082A, or EPA 608
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.

[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

ICAL = initial calibration

ICV = initial calibration verification

LCS = Laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

NA = not applicable

QC = quality control

RL = reporting limit

RPD = relative percent difference

Table 4.2
Summary of Calibration and Quality Control Procedures for Methods EPA 8260B or C, EPA 8270C or D including SIM, EPA 624, EPA 625
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Mass spectrometer tuning check	Prior to ICAL and prior to each 12-hour period of sample analysis.	Specific ion abundance criteria of BFB or DFTPP from method.	Retune instrument and verify.	Not appropriate; no samples shall be analyzed without a valid tune.
GC performance check (SW8270 only) The DDT breakdown and Benzidine/Pentachlorophenol tailing factors are considered overall system checks to evaluate injector port inertness and column performance and are required regardless of the reported analyte list.	At the beginning of each 12-hour period, prior to analysis of samples.	Degradation ≤ 20% for DDT. No visible peak tailing for benzidine or pentachlorophenol	Correct problem, then repeat performance check.	Not appropriate; no samples shall be analyzed until performance check is within criteria.
Multipoint ICAL for all analytes including surrogates. Minimum 5 levels for linear and 6 levels for quadratic.	At instrument set-up, prior to sample analysis.	Each analyte must meet one of three options: Option 1: RSD for each analyte ≤ 15%; Option 2: Linear least squares regression for each analyte: r2 ≥ 0.99; Option 3: Non-linear least squares regression (quadratic) for each analyte: r2 ≥ 0.99.	Correct problem, then repeat ICAL.	Flagging criteria are not appropriate; problem must be corrected. Samples may not be analyzed until there is a valid ICAL. Calibration may not be forced through the origin.
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All analytes within ±30% of expected value.	Correct problem and verify second-source standard. Rerun second-source verification. If that fails, correct problem and repeat ICAL.	Flagging criteria are not appropriate; problem must be corrected. Samples may not be analyzed until the calibration has been verified.

Table 4.2
Summary of Calibration and Quality Control Procedures for Methods EPA 8260B or C, EPA 8270C or D including SIM, EPA 624, EPA 625
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Continuing Calibration Verification (CCV)	Daily before sample analysis; after every 12 hours of analysis time.	All reported analytes and surrogates within ±20% of true value.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable CCV.
RT window position establishment for each analyte and surrogate	Once per ICAL and at the beginning of the analytical sequence.	Position will be set using the midpoint standard of the ICAL curve. On days when an ICAL is not performed, the CCV is used.	NA	NA
RT window verification for each analyte	Each sample	RRT of the analyte within ±0.06 RRT units of ICAL. RRTs may be updated based on the daily CCV. RRTs shall be compared with the most recently updated RRTs.	Correct problem, then reanalyze all samples analyzed since the last RT check.	Apply J-flag to all results for the specific analyte(s) in the sample which are outside the established window.
Method blank	One per preparatory batch.	No analytes detected > RL.	Assess data. Correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
Laboratory control sample (LCS) (must contain all target analytes to be reported, including surrogates)	One LCS per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.

Table 4.2
Summary of Calibration and Quality Control Procedures for Methods EPA 8260B or C, EPA 8270C or D including SIM, EPA 624, EPA 625
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Surrogate spike	All field and QC samples	Acceptance criteria listed in LCS and MS/MSD tables.	Correct problem, then re-extract and reanalyze all failed samples for failed surrogates in the associated preparatory batch. If obvious chromatographic interference with surrogate is present, discuss in case narrative.	If corrective action fails, apply J-flag to the specific analyte(s) in affected sample. Alternative surrogates are recommended when there is obvious chromatographic interference with surrogate.
Internal standards (IS)	Each sample, standard, and QC sample.	Retention time within ±10 seconds from retention time of the midpoint standard in the ICAL; EICP area within -50% to +100% of ICAL midpoint standard.	Inspect mass spectrometer and GC for malfunctions and make corrections as appropriate. Reanalysis of samples analyzed while the system was malfunctioning is mandatory.	Problem must be corrected. Results may not be reported without a valid IS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) associated with the non-compliant IS.
MS/MSD	One per 20 samples per matrix as a minimum and as defined on the chain-of-custody form.	Acceptance criteria listed in LCS and MS/MSD Tables.	Assess data to determine whether there is a matrix effect or analytical error. Potential matrix effects should be communicated to project chemist so an evaluation can be made regarding the DQOs.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification
DQO = data quality objective
GC = gas chromatography
ICAL = initial calibration
ICV = initial calibration verification
IS = internal standards
LCS = laboratory control sample
MS = matrix spike
MSD = matrix spike duplicate
NA = not applicable
QC = quality control
RL = reporting limit
RPD = relative percent difference

Table 4.3
Summary of Calibration and Quality Control Procedures for Methods EPA 1613A or B, EPA 8290
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Resolving Power	Prior to ICAL and at the beginning and the end of each 12-hour period of analysis.	Static resolving power ≥ 10,000 (10% valley) for identified masses.	Retune instrument and verify. Rerun affected samples.	Not appropriate; no samples shall be analyzed without a valid tune.
Performance Check Use GC column performance check solution If the laboratory operates during consecutive 12-hr periods.	Prior to ICAL or calibration verification. At the beginning of each 12-hr period during which samples or calibration solutions are analyzed.	Peak separation between 2,3,7,8-TCDD and other TCDD isomers: Resolved with a valley of ≤ 25%. Identification of all first and last eluters of the 8 homologue retention time windows and documentation by labeling (F/L) on the chromatogram. Absolute retention times for switching from one homologous series to the next ≥ 10 seconds for all components of the mixture.	Correct problem, then repeat column performance check.	Flagging is not appropriate; no samples shall be analyzed until performance check is within criteria.
Initial calibration (ICAL) for all analytes identified in method	At instrument setup and after ICV or CCV failure, prior to sample analysis, and when a new lot is used as standard source for HRCC-3, sample fortification (IS), or recovery solutions.	Ion abundance ratios in accordance with the method. S/N ratio ≥ 10 for all reported analyte ions. RSD ≤ 20% for the response factors (RF) for all 17 unlabeled standards. RSD ≤ 20% for the RFs for the 9 labeled IS.	Correct problem, then repeat ICAL.	Flagging is not appropriate; no samples shall be analyzed run until ICAL has passed. Calibration may not be forced through origin.
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	Ion abundance specified in the method must be met. For unlabeled standards, RF within ±20% deviation of RF established in ICAL. For labeled standards, RF within ±30% deviation of the mean of RF established in ICAL.	Correct problem. Rerun ICV. If that fails, repeat ICAL.	Flagging is not appropriate; no samples shall be analyzed until calibration has been verified with a second source.

Table 4.3
Summary of Calibration and Quality Control Procedures for Methods EPA 1613A or B, EPA 8290
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Calibration Verification (CCV)	At the beginning of each 12-hour period.	Ion abundance specified in the method must be met. For unlabeled standards, RF within ±20% D of RF established in ICAL. For labeled standards, RF within ±30% D of RF established in ICAL.	Immediately analyze two additional consecutive CCVs. If both pass, samples may be reported without reanalysis. If either fails, take corrective action(s) and re-calibrate; then reanalyze all affected samples since the last acceptable CCV.	Results may not be reported without a valid calibration verification. Flagging is only appropriate in cases where the samples cannot be reanalyzed. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable CCV.
Internal Standards (IS)	Every field sample, standard, and QC sample.	% Recovery for each IS in the original sample (prior to dilutions) must be within 40% to 135% of the ICAL average RF.	Correct problem, then re-prep and reanalyze the samples with failed IS.	Apply J-flag to results of all affected samples and explain in the case narrative.
Method Blank	One per preparatory batch, run after calibration standards and before samples.	No analytes detected > RL.	Correct problem. If required, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Results may not be reported without a valid method blank. Flagging is only appropriate in cases where the samples cannot be reanalyzed. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all results for the specific analyte(s) in all samples in the associated preparatory batch.
Laboratory Control Sample (LCS)	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables. If the analyte(s) are not listed, use in-house limits if project limits are not specified.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
MS/MSD	One per 20 samples per matrix as a minimum and as defined on the chain-of-custody form.	Acceptance criteria listed in LCS and MS/MSD Tables. If the analyte(s) are not listed, use in-house limits if project limits are not specified.	Assess data to determine whether there is a matrix effect or analytical error. Potential matrix effects should be communicated to project chemist so an	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.

Table 4.3
Summary of Calibration and Quality Control Procedures for Methods EPA 1613A or B, EPA 8290
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
			evaluation can be made regarding the DQOs.	
Sample Estimated Maximum Possible Concentration (EMPC)	Every sample with a response S/N ≥ 2.5 for both quantitation ions.	Identification criteria per method must be met, and the S/N of response for both quantitation ions must be ≥ 2.5	NA	Flagging is not appropriate.
Sample 2,3,7,8-TCDD toxicity equivalents (TEQ) concentration	All positive detections	Per method	NA	Flagging is not appropriate. Recommended reporting convention by the EPA and CDC for positive detections in terms of toxicity of 2,3,7,8- TCDD.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

GC = gas chromatography

ICAL = initial calibration

ICV = initial calibration verification

IS = internal standards

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

NA = not applicable

RF = response factors

S/N ratio = signal-to-noise ratio

Table 4.4
Summary of Calibration and Quality Control Procedures for Methods EPA7470A or B, EPA7471A or B, EPA245.1, EPA 1631
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
ICAL for all analytes (minimum five-point)	Daily before sample analysis.	$r^2 \geq 0.99$. RSD ≤ 15% (EPA 1631 only)	If applicable, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until there is a valid ICAL.
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All analytes within ±10% of expected value.	Correct problem and verify second-source standard. Rerun ICV. If that fails, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified.
Continuing Calibration Verification (CCV)	After every 10 samples.	All analytes within ±20% of expected value.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable CCV.
Initial and Continuing Calibration Blank (ICB/CCB)	Before beginning a sample run, after every 10 field samples, and at end of the analysis sequence.	No analytes detected > RL.	Correct problem and repeat ICAL. All samples following the last acceptable calibration blank must be reanalyzed.	Results may not be reported without a valid blank. Flagging is only appropriate in cases where the samples cannot be re-prepared or reanalyzed. Apply B-flag to all associated positive results for all samples associated with the blank.
Reagent blanks (EPA 1631 only)	When new batch of reagents is prepared	< 0.2 ng/L of mercury	Prepare new batch of reagents	Problem must be corrected. Samples may not be analyzed until reagent blank meets criteria
Method blank	One per preparatory batch.	No analytes detected > RL.	Assess data. Correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific

Table 4.4
Summary of Calibration and Quality Control Procedures for Methods EPA7470A or B, EPA7471A or B, EPA245.1, EPA 1631
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
				analyte(s) in all samples in the associated preparatory batch.
LCS (must contain all analytes to be reported)	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
MS/MSD	One per 20 samples per matrix as a minimum and as defined on the chain-of-custody form.	Acceptance criteria listed in LCS and MS/MSD Tables.	Assess data to determine whether there is a matrix effect or analytical error. Analyze LCS for failed target analytes. Potential matrix effects should be communicated to project chemist so an evaluation can be made regarding the DQOs.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

DQO = data quality objective

ICAL = initial calibration

ICB/CCB = Initial and Continuing Calibration Blank

ICV = initial calibration verification

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

QC = quality control

RL = reporting limit

RSD = relative standard deviation

Table 4.5
Summary of Calibration and Quality Control Procedures for Methods EPA6010C or D, EPA200.7
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Linear dynamic range or high-level check standard	At initial set up and checked every 6 months with a high standard at the upper limit of the range.	Within ±10% of true value.	Dilute samples within the calibration range or re-establish/ verify the LDR.	Flagging is not appropriate. Data cannot be reported above the high calibration range without an established/passing high-level check standard.
ICAL for all analytes (minimum one standard and a blank)	Daily before sample analysis.	If more than one standard is used; $r^2 \geq 0.99$	If applicable, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until there is a valid ICAL.
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All analytes within ±10% of expected value.	Correct problem and verify second-source standard. Rerun ICV. If that fails, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified.
Continuing Calibration Verification (CCV)	After every 10 samples and at the end of the analysis sequence.	All analytes within ±10% of expected value.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable CCV.
Initial and Continuing Calibration Blank (ICB/CCB)	Before beginning a sample run, after every 10 field samples, and at end of the analysis sequence.	No analytes detected > RL.	Correct problem and repeat ICAL. All samples following the last acceptable calibration blank must be reanalyzed.	Results may not be reported without a valid blank. Flagging is only appropriate in cases where the samples cannot be re-prepared or reanalyzed. Apply B-flag to all associated positive results for all samples associated with the blank.
Low-level calibration check standard (at or below RL)	Daily, after ICAL	All analyte(s) with ±20% of expected value.	Correct problem, then reanalyze.	Flagging criteria are not appropriate. No samples may be analyzed without a valid low-level calibration check standard.

Table 4.5
Summary of Calibration and Quality Control Procedures for Methods EPA6010C or D, EPA200.7
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Method blank	One per preparatory batch	No analytes detected > RL.	Assess data and correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
Interference check solutions (ICS-A and ICS-AB)	At the beginning of an analytical run or once during a 12-hour period, whichever is more frequent.	ICS-A: Absolute value of all non-spiked analytes < RL (unless they are a verified trace impurity from one of the spiked analytes). ICS-AB: Within ±20% of expected value.	Terminate analysis, locate and correct problem, reanalyze ICS, and reanalyze all affected samples.	If corrective action fails, apply Q-flag to the specific analyte(s). ICS-AB is not needed if instrument can read negative responses.
LCS (must contain all analytes to be reported)	One per preparatory batch	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
Dilution test Only applicable for samples with concentrations > 50 x MDL (prior to dilution).	One per preparatory batch if MS or MSD fails.	Five-fold dilution must agree within ±10% of the original determination.	NA	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.
Post-digestion spike addition Criteria applies for samples with concentrations < 50 x MDL (prior to dilution).	One per preparatory batch if MS or MSD fails.	Recovery within 80% to 120% of expected results.	Run all associated samples in the preparatory batch by method of standard additions or see flagging criteria.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.

Table 4.5
Summary of Calibration and Quality Control Procedures for Methods EPA6010C or D, EPA200.7
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
MS/MSD	One per 20 samples per matrix as a minimum and as defined on the chain-of-custody form.	Acceptance criteria listed in LCS and MS/MSD Tables.	Assess data to determine whether there is a matrix effect or analytical error. Analyze LCS for failed target analytes. Potential matrix effects should be communicated to project chemist so an evaluation can be made regarding the DQOs.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

DQO = data quality objective

ICAL = initial calibration

ICV = initial calibration verification

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

NA = not applicable

QC = quality control

RL = reporting limit

Table 4.6
Summary of Calibration and Quality Control Procedures for Method SW6020 or EPA200.8
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Linear dynamic range or high-level check standard	At initial set up and checked every 6 months with a high standard at the upper limit of the range.	Within ±10% of true value.	Dilute samples within the calibration range or re-establish/ verify the LDR.	Flagging is not appropriate. Data cannot be reported above the high calibration range without an established/passing high-level check standard.
Mass spectrometer tuning sample	Before ICAL	Mass calibration ≤ 0.1 amu from the true value. Resolution < 0.9 amu full width at 10% peak height.	Retune instrument, then reanalyze tuning solution.	Not appropriate; no samples shall be analyzed without a valid tune.
ICAL for all analytes (minimum one standard and a blank)	Daily before sample analysis	If more than one standard is used, $r^2 \geq 0.99$	If applicable, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until there is a valid ICAL.
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All analytes within ±10% of expected value.	Correct problem and verify second-source standard. Rerun ICV. If that fails, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified.
Continuing Calibration Verification (CCV)	After every 10 samples and at the end of the analysis sequence.	All analytes within ±10% of expected value.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable CCV.
Initial and Continuing Calibration Blank (ICB/CCB)	Before beginning a sample run, after every 10 field samples, and at end of the analysis sequence.	No analytes detected > RL.	Correct problem and repeat ICAL. All samples following the last acceptable calibration blank must be reanalyzed.	Results may not be reported without a valid blank. Flagging is only appropriate in cases where the samples cannot be re-prepared or reanalyzed. Apply B-flag to all associated positive results for all samples associated with the blank.

Table 4.6
Summary of Calibration and Quality Control Procedures for Method SW6020 or EPA200.8
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Low-level calibration check standard (at or below RL)	Daily, after ICAL	All analyte(s) with ±20% of expected value.	Correct problem, then reanalyze.	Flagging criteria are not appropriate. No samples may be analyzed without a valid low-level calibration check standard.
Method blank	One per preparatory batch	No analytes detected RL	Assess data. Correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
Interference check solutions (ICS-A and ICS-AB)	At the beginning of an analytical run or once during a 12-hour period, whichever is more frequent.	ICS-A: Absolute value of all non-spiked analytes < RL (unless they are a verified trace impurity from one of the spiked analytes). ICS-AB: Within ±20% of expected value.	Terminate analysis; locate and correct problem; reanalyze ICS; reanalyze all affected samples.	If corrective action fails, apply J-flag to the specific analyte(s). ICS-AB is not needed if instrument can read negative responses.
LCS (must contain all analytes to be reported)	One per preparatory batch	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
Dilution test Only applicable for samples with concentrations > 50 x MDL (prior to dilution).	One per preparatory batch if MS or MSD fails	Five-fold dilution must agree within ±10% of the original determination.	NA	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.

Table 4.6
Summary of Calibration and Quality Control Procedures for Method SW6020 or EPA200.8
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Post-digestion spike addition Criteria applies for samples with concentrations < 50 x MDL (prior to dilution).	One per preparatory batch if MS or MSD fails.	Recovery within 80% to 120% of expected results.	Run all associated samples in the preparatory batch by method of standard additions or see flagging criteria.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.
MS/MSD	One per 20 samples per matrix as a minimum and as defined on the chain-of-custody form.	Acceptance criteria listed in LCS and MS/MSD Tables.	Assess data to determine whether there is a matrix effect or analytical error. Analyze LCS for failed target analytes. Potential matrix effects should be communicated to project chemist so an evaluation can be made regarding the DQOs.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.
Internal Standards (IS)	Every field sample, standard and QC sample.	IS intensity within 30% to 120% of intensity of the IS in the ICAL or per method.	If recoveries are acceptable for QC samples, but not field samples, the field samples may be considered to suffer from a matrix effect. For failed QC samples, correct problem, and rerun all associated failed field samples.	Flagging criteria are not appropriate. Samples suffering from matrix effect should be diluted until criteria are met, or an alternate IS should be selected.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

amu = atomic mass unit

CCV = continuing calibration verification

DQO = data quality objective

ICAL = initial calibration

ICV = initial calibration verification

IS = internal standards

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

NA = not applicable

QC = quality control

Table 4.7
Summary of Calibration and Quality Control Procedures for Methods EPA7196A, EPA7199
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Check sample pH (SW7199 only)	Each sample, upon receipt at the laboratory	Sample pH must be 9.3 to 9.7.	Additional adjustment if needed will be performed using one drop a time (as needed) of "verified clean" NaOH	Note in case narrative
ICAL for all analytes (minimum five standards and a blank)	Daily before sample analysis	$r^2 \geq 0.99$	If applicable, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until there is a valid ICAL.
RT window position established (SW7199 only)	Each ICAL and at the beginning of the analytical sequence.	Using the retention time of each ICAL standard and continuing calibration verification calculate the average retention time and calculate a retention time window three times the standard deviation or a maximum of ±0.20 minutes.	NA	NA
RT window verification (SW7199 only)	Each calibration verification	Analyte within established window	Correct problem, then reanalyze all samples analyzed since the last acceptable RT check.	Problem must be corrected. Results cannot be reported outside of RT window
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All analytes within ±10% of expected value.	Correct problem and verify second-source standard. Rerun ICV. If that fails, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified.
Continuing Calibration Verification (CCV)	Daily before sample analysis, after every 15 field samples and at the end of the analysis sequence.	All analytes within ±10% of expected value.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable CCV.
Low-level calibration check standard (at or below RL) (SW7199 only)	Daily, after ICAL	All analyte(s) with ±30% of expected value.	Correct problem, then reanalyze.	Apply J-flag to all results for the specific analyte(s) in all samples associated with the low-level calibration check.

Table 4.7
Summary of Calibration and Quality Control Procedures for Methods EPA7196A, EPA7199
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Method blank	One per preparatory batch	No analytes detected > RL	Assess data, and correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
LCS (must contain all analytes to be reported)	One per preparatory batch	Acceptance criteria listed in LCS and MS/MSD tables	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
MS/MSD	One per 20 samples per matrix as a minimum and as defined on the chain-of-custody form.	Acceptance criteria are listed in LCS and MS/MSD tables.	Assess data to determine whether there is a matrix effect or analytical error. Analyze LCS for failed target analytes. Potential matrix effects should be communicated to project chemist so an evaluation can be made regarding the DQOs.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.
Soluble and Insoluble Pre-Digestion Matrix Spikes (solid matrix samples only for SW7196A)	One soluble and insoluble pre-digestion MS analyzed per preparatory batch prior to analysis.	Recovery within 75% to 125%.	Correct problem and re-homogenize, redigest, and reanalyze samples. If that fails, evaluate against LCS results.	Apply J-flag to all results for hexavalent chromium if acceptance criteria are not met and explain in the case narrative.
Post-digestion Matrix Spike (solid matrix samples for SW7196A) Criteria apply for samples with concentrations > 50 X MDL prior to dilution.	One per preparatory batch	Recovery within 85% to 115%.	NA	Apply J-flag to all results for hexavalent chromium if acceptance criteria are not met and explain in the case narrative.

Table 4.7
Summary of Calibration and Quality Control Procedures for Methods EPA7196A, EPA7199
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.

[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

DQO = data quality objective

ICAL = initial calibration

ICV = initial calibration verification

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

NA = not applicable

QC = quality control

RL = reporting limit

Table 4.8
Summary of Calibration and Quality Control Procedures for Methods EPA 9014, SM4500-Cn E/G/I
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Initial multipoint calibration for all analytes (ICAL) (minimum of three standards)	Daily ICAL prior to sample analysis.	$r^2 \geq 0.99$	Correct the problem and repeat the ICAL.	Flagging criteria are not appropriate. Problem must be corrected. Samples may not be analyzed until there is a valid ICAL. Calibration may not be forced through the origin.
Distillation Verification	Once after each ICAL, with two distilled ICAL standards; prior to sample analysis. Not required if all ICAL standards are distilled.	Within ±10% of non-distilled standard value.	Correct problem, rerun distilled standards or repeat ICAL.	Flagging is not appropriate. One high and one low distilled ICAL standard. No samples shall be analyzed until distillation technique has been verified.
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All analytes within ±10% of expected value.	Correct problem and verify second-source standard. Rerun ICV. If that fails, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified.
Continuing Calibration Verification (CCV)	Daily before sample analysis, after every 10 field samples and at the end of the analysis sequence.	All analytes within ±10% of expected value.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable CCV.
Initial and Continuing Calibration Blank (ICB/CCB)	Before beginning a sample run, after every 10 field samples, and at end of the analysis sequence.	No analytes detected > RL.	Correct problem and repeat ICAL. All samples following the last acceptable calibration blank must be reanalyzed.	Results may not be reported without a valid blank. Flagging is only appropriate in cases where the samples cannot be re-prepared or reanalyzed. Apply B-flag to all associated positive results for all samples associated with the blank.

Table 4.8
Summary of Calibration and Quality Control Procedures for Methods EPA 9014, SM4500-Cn E/G/I
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Method blank	One per preparatory batch.	No analytes detected > RL.	Assess data. Correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
LCS (must contain all analytes to be reported)	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
MS/MSD	One per 20 samples per matrix as a minimum and as defined on the chain-of-custody form.	Acceptance criteria listed in LCS and MS/MSD Tables.	Assess data to determine whether there is a matrix effect or analytical error. Analyze LCS for failed target analytes. Potential matrix effects should be communicated to project chemist so an evaluation can be made regarding the DQOs.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.

[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

DQO = data quality objective

ICAL = initial calibration

ICB/CCB = Initial and Continuing Calibration Blank

ICV = initial calibration verification

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

QC = quality control

Table 4.9
Summary of Calibration and Quality Control Procedures for Methods EPA 9056, EPA 300.0
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Multipoint ICAL for all analytes (minimum three standards and one blank)	Before sample analysis.	$r^2 \geq 0.99$.	Correct problem, then repeat ICAL.	Flagging criteria are not appropriate; problem must be corrected. Samples may not be analyzed until there is a valid ICAL. Calibration may not be forced through the origin.
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All analytes within ±10% of expected value.	Correct problem and verify second-source standard. Rerun ICV. If that fails, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified.
Continuing Calibration Verification (CCV)	Daily before sample analysis, after every 10 field samples.	All analytes within ±10% of expected value.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable CCV.
Retention time (RT) window position established for each analyte	Once per multipoint calibration.	Position shall be set using the midpoint standard of the ICAL curve when ICAL is performed. On days when ICAL is not performed, the initial CCV is used.	NA	NA
RT window width	At method set-up and after major maintenance (e.g., column change).	RT width is ±3 times standard deviation for each analyte RT over a 24-hour period.	NA	NA

Table 4.9
Summary of Calibration and Quality Control Procedures for Methods EPA 9056, EPA 300.0
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
RT window verification for each analyte	Each calibration verification.	Analyte within established window.	Correct problem, then reanalyze all samples analyzed since the last acceptable RT check.	Apply J-flag to all results for the specific analyte(s) in the sample that are outside the established window.
Method blank	One per preparatory batch.	No analytes detected > RL.	Assess data. Correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
LCS (must contain all analytes to be reported)	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
MS/MSD	One per 20 samples per matrix as a minimum and as defined on the chain-of-custody form.	Acceptance criteria listed in LCS and MS/MSD Tables.	Assess data to determine whether there is a matrix effect or analytical error. Analyze LCS for failed target analytes. Potential matrix effects should be communicated to project chemist so an evaluation can be made regarding the DQOs.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.

Table 4.9
Summary of Calibration and Quality Control Procedures for Methods EPA 9056, EPA 300.0
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.

[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

DQO = data quality objective

ICAL = initial calibration

ICV = initial calibration verification

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

NA = not applicable

QC = quality control

RL = reporting limit

RT = retention time

RPD = relative percent difference

Table 4.10
Summary of Calibration and Quality Control Procedures for Methods EPA 9060
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Multipoint ICAL for all analytes (minimum one standard and one blank)	Before sample analysis	$r^2 \geq 0.99$.	Correct problem, then repeat ICAL.	Flagging criteria are not appropriate; problem must be corrected. Samples may not be analyzed until there is a valid ICAL. Calibration may not be forced through the origin.
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All analytes within ±10% of expected value.	Correct problem and verify second-source standard. Rerun ICV. If that fails, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified.
Continuing Calibration Verification (CCV)	Daily before sample analysis, after every 10 field samples.	All analytes within ±10% of expected value.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable CCV.
Method blank	One per preparatory batch.	No analytes detected > RL.	Assess data and correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
LCS (must contain all analytes to be reported)	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.

Table 4.10
Summary of Calibration and Quality Control Procedures for Methods EPA 9060
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
MS/MSD	One per 20 samples per matrix as a minimum and as defined on the chain-of-custody form.	Acceptance criteria listed in LCS and MS/MSD Tables.	Assess data to determine whether there is a matrix effect or analytical error. Analyze LCS for failed target analytes. Potential matrix effects should be communicated to project chemist so an evaluation can be made regarding the DQOs.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

DQO = data quality objective

ICAL = initial calibration

ICV = initial calibration verification

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

QC = quality control

RL = reporting limit

Table 4.11
Summary of Calibration and Quality Control Procedures for Methods SM4500-NH3 B/D/E, SM4500-Norg A/B/C/D, SM4500-NO3, EPA353.2, EPA 9031, EPA 9034, SM4500 S2

APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Multipoint ICAL for all analytes (minimum one standard and one blank)	Before sample analysis.	$r^2 \geq 0.99$	Correct problem, then repeat ICAL.	Flagging criteria are not appropriate; Problem must be corrected. Samples may not be analyzed until there is a valid ICAL. Calibration may not be forced through the origin.
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All analytes within ±20% of expected value.	Correct problem and verify second-source standard. Rerun ICV. If that fails, correct problem and repeat ICAL.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified.
Continuing Calibration Verification (CCV)	Daily before sample analysis, after every 10 field samples.	All analytes within ±20% of expected value.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV.	Problem must be corrected. Samples may not be analyzed until the calibration has been verified. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to all results for the specific analyte(s) in all samples since the last acceptable CCV.
Method blank	One per preparatory batch.	No analytes detected > RL.	Assess data. Correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
LCS (must contain all analytes to be reported)	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.

Table 4.11
Summary of Calibration and Quality Control Procedures for Methods SM4500-NH3 B/D/E, SM4500-Norg A/B/C/D, SM4500-NO3, EPA353.2, EPA 9031, EPA 9034, SM4500 S2

APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Reduction check samples (E353 only)	At start of analytical batch	NO3-N peak response must equal NO2-N peak response within ±15%	Adjust hydrazine concentration and reanalyze all samples in the associated preparatory batch for the failed reduction check.	If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
MS/MSD	One per 20 samples per matrix as a minimum and as defined on the chain-of-custody form.	Acceptance criteria listed in LCS and MS/MSD Tables.	Assess data to determine whether there is a matrix effect or analytical error. Analyze LCS for failed target analytes. Potential matrix effects should be communicated to project chemist so an evaluation can be made regarding the DQOs.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

DQO = data quality objective

ICAL = initial calibration

ICV = initial calibration verification

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

QC = quality control

RL = reporting limit

Table 4.12
Summary of Calibration and Quality Control Procedures for Methods SW9045C
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Initial calibration	Daily prior to sample analysis	±0.05 pH unit	Repeat with new buffer solution. If still out, repair meter.	Flagging criteria are not appropriate; problem must be corrected. Samples may not be analyzed until meter is calibrated.
Continuing calibration verification (CCV) using buffer solution	1 per 10 samples analyzed and at end of batch	±0.1 pH unit	Repeat CCV. If still out, find and correct problem, then reanalyze all samples since last good CCV.	Apply J-flag to all results for the specific analyte(s) in all samples associated with failing GGA.
Laboratory duplicate	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the sample and laboratory duplicate.	Apply J-flag to the specific analyte(s) in the parent sample.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

QC = quality control

Table 4.13
Summary of Calibration and Quality Control Procedures for Method SM2320B
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Electrode calibration	Daily	Slope = -59.2 mV/pH ±5 mV/pH	Correct problem and repeat initial calibration.	Flagging criteria are not appropriate; problem must be corrected. Samples may not be analyzed until electrode is calibrated.
Titrant standardization (in duplicate against sodium carbonate)	Initially upon making the titrant and monthly thereafter.	RPD < 5%	Repeat standardization.	Flagging criteria are not appropriate; problem must be corrected. Samples may not be analyzed until titrant is standardized.
Standardization verification	At the end of each analytical batch, for auto-ititration methods.	All analytes within ±10% of expected value	For performance outside of acceptance criteria: Reanalyze standardization verification. If still out, identify and correct problem. Reanalyze all samples since last valid standardization verification.	Flagging criteria are not appropriate; problem must be corrected. Samples may not be analyzed until titrant is standardized.
Method blank	One per preparatory batch.	No analytes detected > RL.	Assess data and correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
LCS (must contain all analytes to be reported)	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.

Table 4.13
Summary of Calibration and Quality Control Procedures for Method SM2320B
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Laboratory duplicate	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the sample and laboratory duplicate.	If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

QC = quality control

RL = reporting limit

RPD = relative percent difference

Table 4.14
Summary of Calibration and Quality Control Procedures for Method SM2540C
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Two- point balance calibration	Daily	Accuracy of ±0.1% (greater than 1g) and ±1% weight (1g or less) Calibration MUST meet acceptance criteria prior to sample analysis	Recalibrate. If still out, repair balance and recalibrate.	Flagging criteria are not appropriate. Problem must be corrected. Samples may not be analyzed until balance is calibrated.
Method blank	One per preparatory batch.	No analytes detected > RL.	Assess data and correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
LCS (must contain all analytes to be reported)	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
Laboratory duplicate	One per preparatory batch.	Acceptance criteria listed in LCS and MS/MSD Tables.	Correct problem, then reanalyze the sample and laboratory duplicate.	If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

g = gram(s)

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

QC = quality control

RL = reporting limit

Table 4.15
Summary of Calibration and Quality Control Procedures for Method HPGe and EPA 903.1 and 904
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Continuing calibration cell background counts	Prior to each use	≤ 5 counts/20 minutes	Check the cell, then recount. Perform new initial calibration.	Flagging criteria are not appropriate; problem must be corrected.
Thorium 230 check source	Once per day	Within 3 sigma of mean count rate	Evaluate the source for leaks or breaks Observe instrument control chart and evaluate for drifts or trends Reset control limit using 20 most recent standard counts	Flagging criteria are not appropriate; problem must be corrected.
Method blank	One per preparatory batch.	< minimum detectable activity	Assess data. Correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
Laboratory duplicates	One per preparatory batch.	RPD ≤ 20% Relative error ratio ≤ 1	Check calculations, repeat analysis	If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.
LCS (must contain all analytes to be reported)	One per preparatory batch.	Per laboratory control limits	Correct problem, then reanalyze the LCS and all samples in the associated preparatory batch for the failed analytes.	Problem must be corrected. Results may not be reported without a valid LCS. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.

Table 4.15
Summary of Calibration and Quality Control Procedures for Method HPGe and EPA 903.1 and 904
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.

[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

CCV = continuing calibration verification

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

QC = quality control

RPD = relative percent difference

Table 4.16
Summary of Calibration and Quality Control Procedures for Method EPA 100.2 and SM9223B-2004
APS Quality Assurance Project Plan

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action[a]	Laboratory Flagging Criteria[b]
Method blank	One per preparatory batch.	< minimum detectable activity	Assess data and correct problem. If necessary, re-prepare and reanalyze method blank and all samples processed with the contaminated blank.	Problem must be corrected. Results may not be reported without a valid method blank. If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply B-flag to all associated positive results for the specific analyte(s) in all samples in the associated preparatory batch.
Laboratory duplicates	One per preparatory batch.	RPD ≤ 20%	Check calculations, repeat analysis.	If reanalysis cannot be performed, data must be qualified and explained in the case narrative. Apply J-flag to the specific analyte(s) in all samples in the associated preparatory batch.

[a] All corrective actions associated with project work will be documented, and all records will be maintained by the laboratory.
[b] Flagging criteria will be applied when acceptance criteria were not met and corrective action was not successful, or corrective action was not performed.

QC = quality control

RPD = relative percent difference

Table 7.2 Flagging Conventions for Inorganic Methods

APS Quality Assurance Project Plan

Quality Control Check	Evaluation	Flag	Samples Affected
Holding Time	Holding time exceeded for extraction or analysis	J positive results UJ non-detects	Affected samples
	Holding time exceeded for extraction or analysis by a factor of two	J positive results R non-detects	Affected samples
Temperature	Temperature exceedance >10°C if received within 24 hours Temperature exceedance >6°C if received after 24 hours	J positive results UJ non-detects	Affected samples
Sample Preservation	Sample not preserved properly (no flagging required if preserved upon arrival at laboratory)	J positive results UJ non-detects	Affected samples
Initial Calibration	%RSD > UCL	J positive results UJ non-detects	Analyte in associated samples
	$R^2 < 0.995$	J positive results UJ non-detects	Analyte in associated samples
ICV and CCV	% difference or % drift > UCL with high recovery	J positive results	Analyte in associated samples
	% difference or % drift > UCL with low recovery	J positive results UJ non-detects	Analyte in associated samples
LCS/LCSD	%R > UCL	J positive results	Analyte in associated samples
	RPD > UCL	J positive results	Analyte in associated samples
	%R < LCL but $\geq$ 10%	J positive results UJ non-detects	Analyte in associated samples
	%R < LCL but $\leq$ 10%	J positive results R non-detects	Analyte in associated samples

Table 7.2 Flagging Conventions for Inorganic Methods

APS Quality Assurance Project Plan

Quality Control Check	Evaluation	Flag	Samples Affected
Retention Time	Analyte outside of retention time window	J positive results UJ non-detects Use professional judgment for R flags	Analyte in associated samples
Method Blank	Multiply highest blank value by 5 (by 10 for common lab contaminants, acetone, methylene chloride)	U positive results < 5 x highest blank concentration (<10 x for common contaminants)	All associated samples in batch
Equipment Blank	Multiply highest blank value by 5 (by 10 for common lab contaminants, acetone, methylene chloride)	U positive results < 5 x highest blank concentration (<10 x for common contaminants)	All associated samples in batch
MS/MSD	%R > UCL	J positive results	Associated analyte in parent sample
	%R < LCL but ≥ 10%	J positive results UJ non-detects	Associated analyte in parent sample
	%R < LCL but ≤ 10%	J positive results R non-detects	Associated analyte in parent sample
	RPD > UCL	J positive results	Associated analyte in parent sample
Laboratory Duplicates	Both sample results > 5 times RL and RPD > UCL One or both samples < 5 times RL and a difference between results of ±2 times RL	J positive results J positive results UJ non detects	Laboratory duplicate pair Laboratory duplicate pair
Field Duplicates	Both sample results > 5 times RL and RPD > UCL One or both samples < 5 times RL and a difference between results of ±2 times RL for water or ±4 times RL for soil	J positive results J positive results	Field duplicate pair Field duplicate pair

CCV = continuing calibration verification

ICV = initial calibration verification

LCL = lower control limit

LCS = Laboratory control sample

Table 7.2 Flagging Conventions for Inorganic Methods

APS Quality Assurance Project Plan

Quality Control Check	Evaluation	Flag	Samples Affected

LCSD = Laboratory control sample duplicate

MS = Matrix spike

MSD = Matrix spike duplicate

RL = Reporting limit

RPD = Relative percent difference

UCL = upper control limit

Appendix A
APS Project Descriptions and Requirements

Appendix A Project Description

Project Information	
Project Name:	
Project Type: ☐ Remediation ☐ Permit/Compliance-based ☐ Characterization ☐ Other	
Project Description: Location: APS Project Manager: Consulting Project Manager: Overseeing Agency and Program, if applicable: _____ Governing Document: ☐ Work Plan ☐ RAP ☐ Permit ☐ Other _____	
Laboratory Information	
Provide Laboratory Name: ☐ Listed in QAPP ☐ Not listed in QAPP If not already listed in QAPP, ensure QAPP Laboratory listing Table is updated	
Do the QAPP Tables cover the scope of work? ☐ Yes ☐ No If no, list the addition Table references:	
Data Validation to be completed by: ☐ Consultant ☐ Two Laboratories ☐ Other If Other, provide detail:	
Additional Information and/or QAPP Exceptions:	
Signature	
APS Project Manager:	Date:

Appendix B
Arizona Laboratory Data Qualifiers

Water Quality Database
Arizona Lab Data Qualifiers

Lab Qualifier Code	Description
A	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. VALUE REPORTED IS THE MEAN OF TWO OR MORE DETERMINATIONS.
A1	MICROBIOLOGY: TOO NUMEROUS TO COUNT.
A2	MICROBIOLOGY: SAMPLE INCUBATION PERIOD EXCEEDED METHOD REQUIREMENT.
A3	MICROBIOLOGY: SAMPLE INCUBATION PERIOD WAS SHORTER THAN METHOD REQUIREMENT.
A4	MICROBIOLOGY: TARGET ORGANISM DETECTED IN ASSOCIATED METHOD BLANK.
A5	MICROBIOLOGY: INCUBATOR/WATER BATH TEMPERATURE WAS OUTSIDE METHOD REQUIREMENTS.
A6	MICROBIOLOGY: TARGET ORGANISM NOT DETECTED IN ASSOCIATED POSITIVE CONTROL.
A7	MICROBIOLOGY: MICRO SAMPLE RECEIVED WITHOUT ADEQUATE HEADSPACE.
A8	MICROBIOLOGY: PLATE COUNT WAS OUTSIDE THE METHODS REPORTING RANGE. REPORTED VALUE IS ESTIMATED.
AB	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. COMPOUND IS ABSENT.
B1	METHOD BLANK: TARGET ANALYTE DETECTED IN METHOD BLANK AT OR ABOVE THE METHOD REPORTING LIMIT.
B2	METHOD BLANK: NON-TARGET ANALYTE DETECTED IN METHOD BLANK AND SAMPLE, PRODUCING INTERFERENCE.
B3	METHOD BLANK: TARGET ANALYTE DETECTED IN CALIBRATION BLANK AT OR ABOVE THE METHOD REPORTING LIMIT.
B4	METHOD BLANK: TARGET ANALYTE DETECTED IN BLANK AT OR ABOVE METHOD ACCEPTANCE CRITERIA.
B5	METHOD BLANK: TARGET ANALYTE DETECTED IN METHOD BLANK AT OR ABOVE THE METHOD REPORTING LIMIT, BUT BELOW TRIGGER LEVEL OR MCL.
B6	METHOD BLANK: TARGET ANALYTE DETECTED IN CALIBRATION BLANK AT OR ABOVE THE METHOD REPORTING LIMIT, BUT BELOW TRIGGER LEVEL OR MCL.
B7	METHOD BLANK: TARGET ANALYTE DETECTED IN METHOD BLANK AT OR ABOVE METHOD REPORTING LIMIT.CONCENTRATION FOUND IN THE SMP WAS 10 TIMES ABOVE THE CONCENTRATION FOUND IN THE MTHD BLK.
B8	METHOD BLANK: ANALYTE FOUND IN BOTH TRAVEL BLANK AND SAMPLE.
C	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. VALUE CALCULATED.
C1	CONFIRMATION: CONFIRMATORY ANALYSIS NOT PERFORMED AS REQUIRED BY THE METHOD.
C3	CONFIRMATION: QUALITATIVE CONFIRMATION PERFORMED.
C4	CONFIRMATION: CONFIRMATORY ANALYSIS WAS PAST HOLDING TIME.
C5	CONFIRMATION. CONFIRMATORY ANALYSIS WAS PAST HOLDING TIME. ORIGINAL RESULT NOT CONFIRMED.
C6	SAMPLE RPD BETWEEN PRIMARY AND CONFIRMATORY ANALYSIS EXCEEDED 40%. PER EPA METHOD 8000B, THE HIGHER VALUE WAS REPORTED AS THERE WAS NO OBVIOUS CHROMATOGRAPHIC INTERFERENCE.
C7	SAMPLE RPD BETWEEN PRIMARY AND CONFIRMATORY ANALYSIS EXCEEDED 40%. PER EPA METHOD 8000B, THE LOWER VALUE WAS REPORTED DUE TO APPARENT CHROMATOGRAPHIC INTERFERENCE.
C8	SAMPLE RPD BETWEEN THE PRIMARY AND CONFIRMATORY ANALYSIS EXCEEDED 40%. PER EPA METHOD 8000C, THE LOWER VALUE WAS REPORTED AS

Lab Qualifier Code	Description
	THERE WAS NO EVIDENCE OF CHROMATOGRAPHIC PROBLEMS.
D	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. DILUTION FACTOR USED.LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERF
D1	DILUTION: SAMPLE REQUIRED DILUTION DUE TO MATRIX.
D2	DILUTION: SAMPLE REQUIRED DILUTION DUE TO HIGH CONCENTRATION OF TARGET ANALYTE. SEE CASE NARRATIVE.
D3	ARCHIVED FOR HISTORICAL DATA ON 20080128 NOT AVAILABLE FOR USE: DILUTION: SAMPLE DILUTION REQUIRED DUE TO INSUFFICIENT SAMPLE
D4	DILUTION: MINIMUM REPORTING LEVEL LIMIT (MRL) ADJUSTED TO REFLECT SAMPLE AMOUNT RECEIVED AND ANALYZED.
D5	DILUTION: MINIMUM REPORTING LIMIT (MRL) ADJUSTED DUE TO SAMPLE DILUTION; ANALYTE WAS NON-DETECT IN THE SAMPLE.
D6	DILUTION: MINIMUM REPORTING LIMIT ADJUSTED DUE TO AN AUTOMATIC 10X DILUTION PERFORMED ON THIS SAMPLE FOR THE PURPOSE OF REPORTING TRADITIONAL DRINKING WATER ANALYTES FOR WW REQUIRE
D7	DILUTION: MINIMUM REPORTING LIMIT ADJUSTED TO REFLECT SAMPLE DILUTION.
E	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. REPORTED VALUE ESTIMATED DUE TO MATRIX INTERFERENCE.
E1	ESTIMATED CONCENTRATION: CONCENTRATION ESTIMATED. ANALYTE EXCEEDED CALIBRATION RANGE. REANALYSIS NOT POSSIBLE DUE TO INSUFFICIENT SAMPLE.
E2	ESTIMATED CONCENTRATION: CONCENTRATION ESTIMATED. ANALYTE EXCEEDED CALIBRATION RANGE. REANALYSIS NOT PERFORMED DUE TO SAMPLE MATRIX.
E3	ESTIMATED CONCENTRATION: CONCENTRATION ESTIMATED. ANALYTE EXCEEDED CALIBRATION RANGE. REANALYSIS NOT PERFORMED DUE TO HOLDING TIME REQUIREMENTS.
E4	ESTIMATED CONCENTRATION: CONCENTRATION ESTIMATED. ANALYTE WAS DETECTED BELOW LABORATORY MINIMUM REPORTING LEVEL LIMIT (MRL) BUT ABOVE MDL.
E5	ESTIMATED CONCENTRATION: CONCENTRATION ESTIMATED. ANALYTE WAS DETECTED BELOW LABORATORY MINIMUM REPORTING LEVEL LIMIT (MRL), BUT NOT CONFIRMED BY ALTERNATE ANALYSIS.
E6	ESTIMATED CONCENTRATION: CONCENTRATION ESTIMATED. INTERNAL STANDARD RECOVERIES DID NOT MEET METHOD ACCEPTANCE CRITERIA.
E7	ESTIMATED CONCENTRAITON: CONCENTRATION ESTIMATED. INTERNAL STANDARD RECOVERIES DID NOT MEET LABORATORY ACCEPTANCE CRITERIA.
E8	ANALYTE REPORTED TO MDL PER PROJECT SPECIFICATION. TARGET ANALYTE WAS NOT DETECTED IN THE SAMPLE.
F	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. ANALYTE FOUND IN SAMPLE BLANK AS WELL AS SAMPLE.
G	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. VALUE REPORTED IS THE MAXIMUM OF TWO OR MORE DETERMINATIONS.
GT	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. GREATER THAN QUANTIFICATION LEVEL - LABORATORY REPORTED A VALUE WHICH WAS GREATER THAN THE QUA

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Arizona Lab Data Qualifiers

Lab Qualifier Code	Description
H1	HOLD TIME: SAMPLE ANALYSIS PERFORMED PAST HOLDING TIME.
H2	HOLD TIME: INITIAL ANALYSIS WITHIN HOLDING TIME. REANALYSIS FOR THE REQUIRED DILUTION WAS PAST HOLDING TIME.
H3	HOLD TIME: SAMPLE WAS RECEIVED AND/OR ANALYSIS REQUESTED PAST HOLDING TIME.
H4	HOLD TIME: SAMPLE WAS EXTRACTED PAST REQUIRED EXTRACTION HOLDING TIME, BUT ANALYZED WITHIN ANALYSIS HOLDING TIME.
H5	HOLD TIME: THIS TEST IS SPECIFIED TO BE PERFORMED IN THE FIELD WITHIN 15 MINUTES OF SAMPLING; SAMPLE WAS RECEIVED AND ANALYZED PAST THE REGULATORY HOLDING TIME.
H6	HOLD TIME: THE FILTRATION WAS NOT DONE WITHIN THE REQUIRED 15 MINUTES OF SAMPLING, THE SAMPLE WAS FILTERED IN THE LABORATORY.
J	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. VALUES ARE ESTIMATED, DATA IS VALID FOR LIMITED PURPOSES. VALUES ARE ESTIMATED, DATA IS VALID
K	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. COMPOUND IS PRESENT, BUT BELOW LISTED VALUE (TYPICALLY, THE LAB DETECTION_ LIMIT).
K1	BOD/CBOD: THE SAMLE DILUTIONS SET-UP FOR THE BOD/CBOD ANALYSIS DID NOT MEET THE OXYGEN DEPLETION CRITERIA OF AT LEAST 2 MG/L. THE REPORTED RESULT IS AN ESTIMATED VALUE.
K10	BOD/CBOD: SEED CONTROL SAMPLES DO NOT DEPLETE AT LEAST 2.0 MG/L, WITH A RETENTION OF AT LEAST 1.0 MG/L DO CRITERIA IN ALL SAMPLES.
K11	BOD/CBOD: MINIMUM DO IS LESS THAN 1.0 MG/L IN ALL DILUTIONS.
K2	BOD: THE SAMPLE DILUTIONS SET UP FOR THE BOD/CBOD ANALYSIS FAILED TO MEET THE CRITERIA OF A RESIDUAL DISSOLVED OXYGEN OF AT LEAST 1 MG/L. THE REPORTED RESULT IS AN ESTIMATED VALUE.
K3	ARCHIVED FOR HISTORICAL DATA ON 20031126 NOT AVAILABLE FOR USE: THE SEED DEPLETION WAS OUTSIDE THE METHOD ACCEPTANCE LIMITS.
K4	ARCHIVED FOR HISTORICAL DATA ON 20080128 ¿ NOT AVAILABLE FOR USE: BOD/CBOD: THE SEED DEPLETION WAS OUTSIDE THE METHOD ACCEPTANCE LIMITS. THE REPORTED RESULT IS AN ESTIMATED VALUE.
K5	BOD/CBOD: THE DILUTION WATER D.O. DEPLETION WAS > 0.2 MG/L.
K6	BOD/CBOD: GLUCOSE/GLUTAMIC ACID BOD/CBOD WAS BELOW METHOD ACCEPTANCE CRITERIA
K7	BOD/CBOD: A DISCREPANCY BETWEEN THE BOD AND COD RESULTS HAS BEEN VERIFIED BY REANALYSIS OF THE SAMPLE FOR COD
K8	BOD/CBOD: GLUCOSE / GLUTAMIC ACID BOD/CBOD WAS ABOVE METHOD ACCEPTANCE LEVELS.
K9	BOD/CBOD: TEST REPLICATES SHOW MORE THAN 30% DIFFERENCE BETWEEN HIGH AND LOW VALUES.
L	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. RESULT BETWEEN CONTRACT QUANTITATION & INSTRUMENT DETECT LMT - RESULTS HAVE BEEN QUALIFIED BEC
L1	LABORATORY FORTIFIED BLANK/BLANK SPIKE: THE ASSOCIATED BLANK SPIKE RECOVERY WAS ABOVE LABORATORY ACCEPTANCE LIMITS.
L2	LABORATORY FORTIFIED BLANK/BLANK SPIKE: THE ASSOCIATED BLANK SPIKE RECOVERY WAS BELOW LABORATORY ACCEPTANCE LIMITS.
L3	LABORATORY FORTIFIED BLANK/BLANK SPIKE: THE ASSOCIATED BLANK SPIKE RECOVERY WAS ABOVE METHOD ACCEPTANCE LIMITS.
L4	LABORATORY FORTIFIED BLANK/BLANK SPIKE: THE ASSOCIATED BLANK SPIKE

Lab Qualifier Code	Description
	RECOVERY WAS BELOW METHOD ACCEPTANCE LIMITS.
L5	LABORATORY FORTIFIED BLANK/BLANK SPIKE: THE ASSOCIATED BLANK SPIKE RECOVERY WAS ABOVE LABORATORY/METHOD ACCEPTANCE LIMITS. THIS ANALYTE WAS NOT DETECTED IN THE SAMPLE.
M	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. DUPLICATE ANALYSIS OUTSIDE CONTROL LIMITS.
M1	MATRIX SPIKE: MATRIX SPIKE RECOVERY WAS HIGH, THE METHOD CONTROL SAMPLE ASSOCIATED BLANK SPIKE RECOVERY WAS ACCEPTABLE
M2	MATRIX SPIKE: MATRIX SPIKE RECOVERY WAS LOW, THE METHOD CONTROL SAMPLE ASSOCIATED BLANK SPIKE RECOVERY WAS ACCEPTABLE.
M3	MATRIX SPIKE: THE SPIKE RECOVERY VALUE IS UNUSABLE THE ANALYTE CONCENTRATION IN THE SAMPLE IS DISPROPORTIONATE TO THE SPIKE LEVEL THE ASSOCIATED BLANK SPIKE RECOVERY WAS ACCEPTABLE
M4	MATRIX SPIKE: THE ANALYSIS OF THE SPIKED SAMPLE REQUIRED A DILUTION SUCH THAT THE SPIKE RECOVERY CALCULATION DOES NOT PROVIDE USEFUL INFO THE ASSOCIATED BLANK SPIKE WAS ACCEPTABLE.
M5	MATRIX SPIKE: ANALYTE CONCENTRATION WAS DETERMINED BY THE METHOD OF STANDARD ADDITION (MSA).
M6	MATRIX SPIKE: MATRIX SPIKE RECOVERY WAS HIGH. DATA REPORTED PER ADEQ POLICY 0154.000. MATRIX INTERFERENCE WAS CONFIRMED.
M7	MATRIX SPIKE: MATRIX SPIKE RECOVERY WAS LOW. DATA REPORTED PER ADEQ POLICY 0154.000. MATRIX INTERFERENCE WAS CONFIRMED.
N	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. PRESUMPTIVE EVIDENCE OF THE PRESENCE OF THE COMPOUND - PRESUMPTIVE EVIDENCE OF THE PRESENCE OF
N1	GENERAL: SEE CASE NARRATIVE.
N2	GENERAL: SEE CORRECTIVE ACTION REPORT.
N3	ARCHIVED FOR HISTORICAL DATA ON 20080128 ¿ NOT AVAILABLE FOR USE: GENERAL: THE ANALYSIS MEETS ALL METHOD REQUIREMENTS. SEE CASE NARRATIVE.
N4	GENERAL: THE MINIMUM REPORTING LIMIT (MRL) VERIFICATION CHECK DID NOT MEET THE LABORATORY ACCEPTANCE LIMIT.
N5	GENERAL: THE MINIMUM REPORTING LIMIT (MRL) VERIFICATION CHECK DID NOT MEET THE METHOD ACCEPTANCE LIMIT.
N6	GENERAL: DATA SUSPECT DUE TO QUALITY CONTROL FAILURE, REPORTED PER DATA USER¿S REQUEST.
N7	GENERAL: ADDITIONAL ANALYSIS WAS NOT PERFORMED BASED ON THE "TOTAL" RESULT WHICH WAS BELOW THE REQUESTED ANALYTE'S MCL/ACTION LEVEL/TRIGGER LEVEL.
PR	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. COMPOUND IS PRESENT.
Q	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. HOLDING TIME EXCEEDED.
Q1	SAMPLE QUALITY: SAMPLE INTEGRITY WAS NOT MAINTAINED. SEE CASE NARRATIVE.
Q10	SAMPLE QUALITY: SAMPLE RECEIVED IN INAPPROPRIATE SAMPLE CONTAINER.
Q11	SAMPLE QUALITY: SAMPLE IS METEROGENEOUS. SAMPLE HOMOGENEITY COULD NOT BE READILY ACHIEVED USING ROUTINE LABORATORY PRACTICES.
Q2	SAMPLE QUALITY: SAMPLE RECEIVED WITH HEAD SPACE.
Q3	SAMPLE QUALITY: SAMPLE RECEIVED WITH IMPROPER CHEMICAL PRESERVATION.

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Lab Qualifier Code	Description
Q4	SAMPLE QUALITY: SAMPLE RECEIVED AND ANALYZED WITHOUT CHEMICAL PRESERVATION
Q5	SAMPLE QUALITY: SAMPLE RECEIVED WITH INADEQUATE CHEMICAL PRESERVATION, BUT PRESERVED BY THE LABORATORY.
Q6	SAMPLE QUALITY: SAMPLE WAS RECEIVED ABOVE RECOMMENDED TEMPERATURE.
Q7	SAMPLE QUALITY: SAMPLE INADEQUATELY DECHLORINATED.
Q8	SAMPLE QUALITY: INSUFFICIENT SAMPLE RECEIVED TO MEET METHOD QC REQUIREMENTS. BATCH QC REQUIREMENTS SATISFY ADEQ POLICY 0154.000.
Q9	SAMPLE QUALITY: INSUFFICIENT SAMPLE RECEIVED TO MEET METHOD QC REQUIREMENTS.
R	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. VALUES HAVE BEEN REJECTED, DATA IS INVALID FOR ALL PURPOSES.
R1	DUPLICATES: RPD/RSD EXCEEDED THE METHOD CONTROL ACCEPTANCE LIMIT. SEE CASE NARRATIVE.
R10	DUPLICATES: SAMPLE RPD BETWEEN PRIMARY AND CONFIRMATORY ANALYSIS EXCEEDED 40%. PER EPA METHOD 8000B, THE LOWER VALUE WAS RPD DUE TO APPARENT CHROMATOGRAPHIC PROBLEMS.
R11	DUPLICATES: THE RPD CALCULATION FOR MS/MSD DOES NOT PROVIDE USEFUL INFORMATION DUE TO THE VARYING SAMPLE WEIGHTS WHEN ENCORE SAMPLERS/METHANOL FIELD PRESERVED SAMPLES ARE USED.
R12	DUPLICATES: RPD/RSD EXCEEDED THE METHOD ACCEPTANCE LIMIT. RESULT LESS THAN 5 TIMES THE PQL.
R13	DUPLICATES: MS/MSD RPD EXCEEDED METHOD ACCEPTANCE LIMIT. MATRIX SPIKE RECOVERY WAS OUTSIDE ACCEPTANCE CRITERIA. BATCH PRECISION AND ACCURACY WERE DEMONSTRATED.
R2	DUPLICATES: RPD/RSD EXCEEDED THE LABORATORY CONTROL ACCEPTANCE LIMIT. SEE CASE NARRATIVE
R4	DUPLICATES: MS/MSD RPD EXCEEDED THE METHOD CONTROL ACCEPTANCE LIMIT. RECOVERY MET ACCEPTANCE CRITERIA
R5	DUPLICATES: MS/MSD RPD EXCEEDED THE LABORATORY CONTROL ACCEPTANCE LIMIT. RECOVERY MET ACCEPTANCE CRITERIA.
R6	DUPLICATES: LFB/LFBD RPD EXCEEDED THE METHOD CONTROL ACCEPTANCE LIMIT. RECOVERY MET ACCEPTANCE CRITERIA.
R7	DUPLICATES: LFB/LFBD RPD EXCEEDED THE LABORATORY CONTROL ACCEPTANCE LIMIT. RECOVERY MET ACCEPTANCE CRITERIA
R8	DUPLICATES: SAMPLE RPD EXCEEDED THE METHOD CONTROL ACCEPTANCE LIMIT.
R9	DUPLICATES: SAMPLE RPD EXCEEDED THE LABORATORY CONTROL ACCEPTANCE LIMIT.
S	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. SPIKED SAMPLE RECOVERY OUTSIDE CONTROL LIMITS
S1	SURROGATE: SURROGATE RECOVERY WAS ABOVE LABORATORY ACCEPTANCE LIMITS, BUT WITHIN METHOD ACCEPTANCE LIMITS.
S10	SURROGATE: SURROGATE RECOVERY WAS ABOVE LABORATORY AND METHOD ACCEPTANCE LIMITS. SEE CASE NARRATIVE.
S11	SURROGATE: SURROGATE RECOVERY WAS HIGH. DATA REPORTED PER ADEQ POLICY 0154.000.
S12	SURROGATE: SURROGATE RECOVERY WAS LOW. DATA REPORTED PER ADEQ POLICY 0154.000.

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Lab Qualifier Code	Description
S2	ARCHIVED FOR HISTORICAL DATA ON 20031126 NOT AVAILABLE FOR USE: SURROGATE RECOVERY WAS ABOVE LABORATORY AND METHOD ACCEPTANCE LIMITS.
S3	SURROGATE: SURROGATE RECOVERY WAS ABOVE LABORATORY ACCEPTANCE LIMITS, BUT WITHIN METHOD ACCEPTANCE LIMITS. NO TARGET ANALYTES WERE DETECTED IN THE SAMPLE.
S4	SURROGATE: SURROGATE RECOVERY WAS ABOVE LABORATORY AND METHOD ACCEPTANCE LIMITS. NO TARGET ANALYTES WERE DETECTED IN THE SAMPLE.
S5	SURROGATE: SURROGATE RECOVERY WAS BELOW LABORATORY ACCEPTANCE LIMITS, BUT WITHIN METHOD ACCEPTANCE LIMITS.
S6	SURROGATE: SURROGATE RECOVERY WAS BELOW LABORATORY AND METHOD ACCEPTANCE LIMITS. REEXTRACTION AND/OR REANALYSIS CONFIRMS LOW RECOVERY CAUSED BY MATRIX EFFECT.
S7	SURROGATE: SURROGATE RECOVERY WAS BELOW LABORATORY AND METHOD ACCEPTANCE LIMITS. UNABLE TO CONFIRM MATRIX EFFECT.
S8	SURROGATE: THE ANALYSIS OF THE SAMPLE REQUIRED DILUTION SUCH THAT THE SURROGATE RECOVERY CALCULATION DOES NOT PROVIDE USEFUL INFORMATION. THE ASSOCIATED BLANK SPIKE WAS ACCEPTABLE.
S9	ARCHIVED FOR HISTORICAL DATA ON 20031126 NOT AVAILABLE FOR USE: THE ANALYSIS OF THE SAMPLE REQUIRED A DILUTION SUCH THAT THE SURROGATE CONCENTRATION WAS DILUTED BELOW THE LABORAT
T	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. VALUE REPORTED IS LESS THAN CRITERIA OF DETECTION.
T1	METHOD/ANALYTE DISCREPANCIES: METHOD APPROVED BY EPA, BUT NOT YET LICENSED BY ADHS.
T2	METHOD/ANALYTE DISCREPANCIES: CITED ADHS LICENSED METHOD DOES NOT CONTAIN THIS ANALYTE AS PART OF METHOD COUMPOUND LIST.
T3	METHOD/ANALYTE DISCREPANCIES: METHOD NOT PROMULGATED EITHER BY EPA OR ADHS.
T4	METHOD/ANALYTE DISCREPANCIES: TENTATIVELY IDENTIFIED COMPOUND. CONCENTRATION IS ESTIMATED AND BASED ON TEH CLOSEST INTERNAL STANDARD.
T5	METHOD/ANALYTE DISCREPANCIES: LABORATORY NOT LICENSED FOR THIS PARAMETER (METHOD, OR METHOD AND ANALYTE).
T6	METHOD/ANALYTE DISCREPANCIES: THE REPORTED RESULT CANNOT BE USED FOR COMPLIANCE PURPOSES.
T7	METHOD/ANALYTE DISCREPANCIES: INCUBATOR/OVEN TEMPERATURES WERE NOT MONITORED AS REQUIRED DURING ALL DAYS OF USE.
T8	METHOD/ANALYTE DISCREPANCIES: METHOD USED NOT LISTED IN 40 CFR 136; ALTERNATE METHOD CHOSEN AS ACCEPTABLE PER PERMIT.
T9	METHOD/ANALYTE DISCREPANCIES: LESS THAN THE PRESCRIBED SAMPLE AMOUNT WAS AVAILABLE TO PERFORM THE LEACHATE EXTRACTION. THE VOLUME OF EXTRACTION FLUID WAS ADJUSTED PROPORTIONATELY
TR	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. TRACE - LABORATORY REPORTED A TRACE VALUE FOR THE COMPOUND.
U	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. COMPOUND WAS NOT DETECTED ABOVE THE CONCENTRATION LISTED.
UJ	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. SAMPLE QUANTITATION LIMIT WAS ADJUSTED-

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Lab Qualifier Code	Description
	VALUE IS ESTIMATED
V1	CALIBRATION VERIFICATION: CCV RECOVERY WAS ABOVE METHOD ACCEPTANCE LIMITS. THIS TARGET ANALYTE WAS NOT DETECTED IN THE SAMPLE.
V2	CALIBRATION VERIFICATION: CCV RECOVERY WAS ABOVE METHOD ACCEPTANCE LIMITS.THIS TARGET ANALYRTE WAS DETECTED IN THE SAMPLE.SAMPLE COULD NOT BE REANALYZED DUE TO INSUFICIENT SAMPLE.
V3	CALIBRATION VERIFICATION: CCV RECOVERY WAS ABOVE METHOD ACCEPTANCE LIMITS. THIS TARGET ANALYTE WAS DETECTED IN THE SAMPLE, BUT THE SAMPLE WAS NOT REANALYZED. SEE CASE NARRATIVE.
V4	CALIBRATION VERIFICATION: CCV RECOVERY WAS BELOW METHOD ACCEPTANCE LIMITS. THE SAMPLE COULD NOT BE REANALYZED DUE TO INSUFFICIENT SAMPLE.
V5	CALIBRATION VERIFICATION: CCV RECOVERY AFTER A GROUP OF SAMPLES WAS ABOVE ACCEPTANCE LIMITS. THIS TARGET ANALYTE WAS NOT DETECTED IN THE SAMPLE; ACCEPTABLE PER EPA METHOD 8000C.
V6	CALIBRATION VERIFICATION: DATA REPORTED FROM ONE-POINT CALIBRATION CRITERIA.
V7	CALIBRATION VERIFICATION: CV RECOVERY WAS ABOVE THE METHOD CONTROL LIMIT FOR THIS ANALYTE, HOWEVER, AVERAG % DIFFERENCE OR % DRIFT FOR ALL THE ANALYTES MET METHOD CRITERIA.
V8	CALIBRATION VERIFICATION: CV RECOVERY WAS BELOW THE METHOD CONTROL LIMIT FOR THIS ANALYTE, HOWEVER, THE AVERAGE % DIFFERENCE OR % DRIFT FOR ALL THE ANALYTES MET METHOD CRITERIA
V9	CALIBRATION VERIFICATION: CCV RECOVERY WAS BELOW METHOD ACCEPTANCE LIMITS.
W	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. VALUE OBSERVED IS LESS THAN LOWEST VALUE UNDER "T".
W1	ARCHIVED FOR HISTORICAL DATA ON 20120905 ¿ NOT AVAILABLE FOR USE: CALIBRATION: THE % RSD FOR THIS COMPOUND WAS ABOVE 20%. THE AVERAGE % RSD FOR ALL COMPOUNDS IN THE CALIBRATION MET
W2	ARCHIVED FOR HISTORICAL DATA ON 20120905 ¿ NOT AVAILABLE FOR USE: CALIBRATION: THE % RSD FOR THIS COMPOUND WAS ABOVE 15%. THE AVERAGE % RSD FOR ALL COMPOUNDS IN THE CALIBRATION MET
X	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. OTHER (SEE COMMENTS FROM SAMPLE).
Y	LAB NOTATION CODE ADDED TO ARIZONA DATA QUALIFIER LOOK UP TABLE FOR OVERFLOW CAPTURE. QC RATIOS OUTSIDE ACCEPTABLE RANGE.

Appendix C
ADEQ Data Verification and Validation Checklists

Checklist 1
LABORATORY REPORT GOAL: DATA VERIFICATION

Perform data verification on all samples collected to characterize the site, including quarterly groundwater monitoring samples and soil investigation samples. Data verification will be performed by a chemist or other professional with knowledge or experience generating analytical laboratory data. The professional should be familiar with the QC requirements specified for the analytical methods being reviewed. Data verification precedes data validation and is a systematic process for evaluating whether data has been generated with acceptable quality control, as defined in the Project QAPP.

At a minimum, the items listed below must be evaluated as well as completeness of supporting documentation. This is a cursory review of the laboratory's quality control and may suggest that a more thorough validation is needed.

Completed	Review Item
	1. Case Narrative Have any anomalies, deficiencies, and QC problems been identified in the case narrative? What corrective action, if any, was taken?
	2. Chain-of-Custody Documentation Are the original Chain-of-Custody forms with ID numbers and laboratory receipt signatures present?
	Are there copies of internal tracking documents, as applicable?
	3. Sample Analysis Results Are sample analysis results included for environmental samples, with quantitation limits (include dilutions and reanalyses)?
	4. QC Summary Is the following information included? Initial and continuing calibrations
	Method blanks, continuing calibration blanks, and preparation blanks
	Surrogate percent recoveries
	Internal standard percent recoveries

Completed	Review Item
	Matrix spike percent recoveries
	Laboratory duplicate relative percent differences
	Laboratory QC check sample, laboratory control sample recoveries
	Field duplicates, if identified, reproducibility will be evaluated
	Acceptance criteria, if not already established by the method/DQO
	Definitions for any laboratory data qualifiers used
	Method of standard additions (INORGANIC)
	ICP serial dilution (INORGANIC)
	5. Specifically review the following: Was a check for timeliness and errors conducted, including requested deliverables, preservation, holding times, and Chain-of-Custody?
	Was a duplicate sample/matrix spike/matrix spike duplicate/postdigest spike reviewed against precision and accuracy criteria specified by the method or by project DQOs?
	Were compound quantitation and reported detection limits reviewed, checking reporting limits against contract required limits, verifying dry weights, calculations, and dilutions?
	6. Does the Verification Report include the following information?: Case narrative including, but not limited to, an overall summary of data acceptability and comparison to DQOs and DQIs (PARCC), a list of recommended changes, a summary of all laboratory contacts, in which communications with the laboratory, if any, would be identified, and any other problems associated with the actual analysis which might impact the sample integrity or data quality
	Marking of recommended changes directly on copies of the laboratory reports for the client's ease in performing data entry

Completed	Review Item
	Tabulated summary of all data results supplied electronically by email or on 3.5-inch floppy disks in a commonly used software format

Checklist 2
LABORATORY REPORT GOAL: DATA VALIDATION

Experienced chemists will perform full data validation on a data package(s) selected by the contractor Project Manager at the beginning of the project. The package(s) should be a full sample batch (approximately 20 samples), and should be typical of the type of samples expected for the project decision-making. For long-term projects, each analytical method used during the life of the project should be initially validated prior to proceeding with performing data verification on the bulk of the laboratory results. Additionally, during each six-month period that the project is ongoing, the Project Manager will select additional data packages for validation that are representative of the matrix and analyses being performed.

Data validation will consist of a review of sample and QC results, and all accompanying raw data. The ADEQ Project Manager will identify the compounds of concern, and the data validation will include a review of 100% of the QC data and sample data for these compounds in the laboratory report for a sample delivery group. Compounds not identified as contaminants of interest will not be validated unless requested by ADEQ's Project Manager. Data validation will be conducted by the either the consultant's QA officer or an independent data validation contractor. The ADEQ QA Unit will validate a portion of that data previously validated at the ADEQ Project Manager's request to confirm the findings and conclusions regarding the usability of the data. Validation includes all of the following items listed as validation deliverables.

The percentage of data that undergoes full validation may be increased if substantial data quality issues are raised during the initial or subsequent assessments. ADEQ may also require that a larger percent of the data be fully validated for various reasons including, but not limited to, determining the extent of the issue and/or if the issue has been corrected in subsequent analyses, or that additional data be made available for review, besides the validation deliverables mentioned below.

Completed	Review Item
	1. Case Narrative Have any anomalies, deficiencies, and QC problems been identified in the case narrative? What corrective action, if any, was taken?
	2. Chain-of-Custody Documentation Are the original Chain-of-Custody forms with ID numbers and laboratory receipt signatures present?
	Are there copies of internal tracking documents, as

Completed	Review Item
	applicable?
	3. Sample Analysis Results Are sample analysis results included for environmental samples, with quantitation limits (include dilutions and reanalyses)?
	4. QC Summary Is the following information included? Initial and continuing calibrations
	Method blanks, continuing calibration blanks, and preparation blanks
	Surrogate percent recoveries
	Internal standard percent recoveries
	Matrix spike percent recoveries
	Laboratory duplicate relative percent differences
	Laboratory QC check sample, laboratory control sample recoveries
	Field duplicates, if identified, reproducibility will be evaluated
	Acceptance criteria, if not already established by the method/DQO
	Definitions for any laboratory data qualifiers used
	Gas chromatograph breakdown products
	Retention times and acceptance windows (ORGANIC)
	ICP interference check sample (INORGANIC)
	Method of standard additions (INORGANIC)
	ICP serial dilution (INORGANIC)
	5. Raw data, chromatograms, and area quantitation reports (ORGANIC), sequential measurement readout records for ICP, graphite furnace atomic absorption (AA), flame AA, cold vapor mercury, cyanide, and/or other inorganic analyses (INORGANIC), including but not limited to the following: Environmental samples (include dilutions and reanalyses)
	Instrument tuning, for analyses of gas chromatography/mass spectrometry (GC/MS)

Completed	Review Item
	Initial calibration and continuing calibrations
	Method blanks, continuing calibration, and preparation blanks
	Surrogate recoveries and internal standard recoveries, where applicable
	Matrix spike (MS)
	Laboratory duplicate or matrix spike duplicate (MSD)
	Laboratory QC check sample, or laboratory control samples, as applicable
	Retention time windows
	Percent moisture for soil samples
	Sample extraction and cleanup logs (ORGANIC)
	Enhanced spectra of target analytes and tentatively identified compounds (TICs) with the associated best match spectra for MS data
	Sample digestion and/or sample preparation logs (INORGANIC)
	Instrument analysis log for each instrument used (INORGANIC)
	Postdigest spikes (INORGANIC)
	Method of standard additions when applicable (INORGANIC)
	ICP serial dilution (INORGANIC)
	Instrument tuning for ICP/MS, when applicable (INORGANIC)
	6. Specifically review the following: Was a check for timeliness and errors conducted, including requested deliverables, preservation, holding times, and Chain-of-Custody?
	Was a duplicate sample/matrix spike/matrix spike duplicate/post-digest spike reviewed against precision and accuracy criteria specified by the method or by project DQOs?
	Was compound quantitation and reported detection limits reviewed, checking reporting limits against contract required

Completed	Review Item
	limits, verifying dry weights, calculations, and dilutions?
	Was target list compounds identified, indicating proper identification of analytes?
	Was sample result verification conducted, in which the final reports are reviewed against all raw instrumental data and logs and all applicable worksheets to check anomalies, data reduction/calculations, transcription, linear ranges, and dilutions?
	7. OPTIONAL (as requested by ADEQ for data validation on a case-by-case basis) Method detection limits (MDLs)
	Instrument detection limits (IDLs)
	ICP linear range (INORGANIC)
	8. Does the Validation Report include the following information?: Case narrative including, but not limited to, an overall summary of data acceptability and comparison to DQOs (PARCC), a list of recommended changes, a summary of all laboratory contacts, in which communications with the laboratory, if any, would be identified, and any other problems associated with the actual analysis which might impact the sample integrity or data quality
	Marking of recommended changes directly on copies of the laboratory reports for the client's ease in performing data entry
	Tabulated summary of all data results supplied electronically by email or on 3.5-inch floppy disks in a commonly used software format

High Level Data Verification Checklist

Level I data verification of the laboratory analytical data package consists of verification and validation checks for the compliance of sample receipt conditions, sample characteristics, and analytical results. The following checklist can be completed by APS Project Managers to determine if data meet project requirements prior to the submitting the data for validation.

Completed	Review Item
	Have any anomalies, deficiencies, and QC problems been identified in the case narrative?
	Is a copy of the COC forms with ID numbers and laboratory receipt signatures present?
	Is the laboratory receiving and conducting analyses clearly identified, including subcontracted analyses?
	Are all requested analytical methods performed and the preparation/analysis dates present?
	Are all target analytes reported along with the original laboratory data qualifiers and data qualifier definitions for each reported result?
	Are all target analytes reported in the requested units?
	Are the reporting limits for all samples present and are they at or less than the requested reporting limits
	Is the sample receipt information included (preservation, pH and temperature)?
	For radiochemical analyses, are the sample-specific critical values, minimum detectable values, activity or concentration for all samples reported and results at and less than the requested values?
	For radiochemical analyses, is the chemical yield (if applicable to the method) and reference date and time (especially for short lived isotopes) reported for all samples?
	Do sample methods/results meet the requirements and guidelines present in the APS QAPP or NPDES permits?

SPLIT SAMPLING AS AN ACCEPTABLE ALTERNATIVE TO PERFORMING DATA VALIDATION

In the absence of performing data validation (which can be cost prohibitive for small numbers of samples analyzed) a percentage of split samples can be collected and analyzed at another laboratory to confirm accuracy. ***This, however, should be approved by ADEQ in advance to ensure that project requirements can still be achieved****. The decision to allow split sampling as an alternative to data validation must be made on a case-by-case basis. The Agency stresses that analyzing split samples should not be viewed as an equivalent substitution for performing data validation. There are, however, conceivably various sites in which the data quality objectives (DQOs) would not be seriously compromised if split samples were analyzed either in lieu of or in conjunction with performing data validation.*

As the number of samples collected increases, the rationale for analyzing split samples as an alternative to performing data validation must also become more compelling.

With prior approval from ADEQ, the QAPP must document the number of samples to be collected and the percentage of split samples anticipated for the project. State the rationale if the percentage of split samples recommended differs from the number of samples collected. Recommended percentages are as follows:

- *1-10 samples collected (100% splits)*
- *11-20 samples collected (50% splits)*
- *21-35 samples collected (35% splits)*
- *36-50 samples collected (25% splits)*

Appendix D
APS Project Contact Information

APS Project Managers

APS Project Manager	Title	Address	Phone	Email	Associated APS Sites
Judy Heywood	Remediation Project Manager	Mail Station 9303 Post Office Box 53999 Phoenix, Arizona 85072-3999	(602) 250-3850 (office) (602) 818-0259 (cell)	judith.heywood@aps.com	MGP and Remediation
Lori Zito	Waste/Water Consultant	Mail Station 9303 Post Office Box 53999 Phoenix, Arizona 85072-3999	(602) 250-4709 (office) (602) 638-6888 (cell)	lori.zito@aps.com	Fossil generation
Kristina Da Silva	Senior Environmental Scientist	Mail Station 3171 Post Office Box 53999 Phoenix, Arizona 85072-3999	(602) 371-5922 (office) (602) 300-1617 (cell)	Kristina.DaSilva@aps.com	EFO
Natalie Chrisman Lazarr	Principal Environmental Scientist	Mail Station 9303 Post Office Box 53999 Phoenix, Arizona 85072-3999	(602) 250-3608 (office) (602) 316-1324 (cell)	Natalie.ChrismanLazarr@aps.com	Fossil generation
Chris Chittester	Environmental Operations Leader	Mail Station 5100 Post Office Box 53999 Phoenix, Arizona 85072-3999	(602) 407-7807 (office) (480) 309-1471 (cell)	Christopher.Chittester@aps.com	Fossil generation

APS Project Consultants

Consulting Firm	Name	Role	Address	Phone	Email	Associated APS Sites
Jacobs Engineering	Dave Allard	Project Manager	1501 West Fountainhead Parkway, Suite 401 Tempe, Arizona 85282	(480) 295-3913 (office) (480) 363-3254 (cell)	dave.allard@jacobs.com	505/501, Miami, Douglas
Jacobs Engineering	Tom Mooney	Project Manager	1501 West Fountainhead Parkway, Suite 401 Tempe, Arizona 85282	(480) 295-3936 (office) (480) 205-6886 (cell)	Tom.mooney@jacobs.com	Yucca
Jacobs Engineering	Rick Edwards	Project Manager	1501 West Fountainhead Parkway, Suite 401 Tempe, Arizona 85282	(480) 295-3922 (office) (480) 570-7162 (cell)	Rick.edwards@jacobs.com	Cholla
WOOD	Maren Henley	Project Manager	4600 East Washington Street, Suite 600 Phoenix AZ 85034	(602) 733-6140 (office) (480) 255-9439(cell)	maren.henley@woodplc.com	
Hargis + Associates, Inc.	Laura Menken	Project Manager	1640 S. Stapley Drive, Ste 209 Mesa, Arizona 85204	(480) 345-0888 x260 (office) (480) 271-5448 (cell)	lmenken@hargis.com	
Errol Montgomery & Associates	Leslie T. Katz, P.G.	Project Manager	1550 E. Prince Road Tucson, AZ 85719	(520) 881-4912 (office) (520) 245-4802 (cell)	lkatz@elmontgomery.com	
Jacobs Engineering	Bernice Kidd	Quality Assurance Officer/Project Chemist	2525 Airpark Drive1 Redding, California 96001	(530) 229-3203 (office) (530) 209-3480 (cell)	bernice.kidd@jacobs.com	Miami, Cholla
AECOM	Marianne Burrus	Quality Assurance Officer	7720 North 16th Street Suite 100 Phoenix AZ 85020	(602) 861-7473 (office) (602) 371-1615 (cell)	marianne.burrus@aecom.com	
Arcadis	Bob Forsberg		410 N 44th St, Suite 1000 Phoneix, Arizona 85008	(602) 363-8729 (cell)	bob.forsberg@arcadis.com	
Hutzel & Associates	Enrique Luviano		1626 E Alicia Drive Phoenix, Arizona 85042	(602) 323-0222 (office) (602) 549-2035 (cell)	eluviano@gmail.com	
EnviroTech, Inc.	Felipe Aragon		5796 US Highway 64 Farmington, New Mexico 87401	(505) 632-0615 (office) (505) 486-6942 (cell)	faragon@envirotech-inc.com	

Project Manager	Address	Phone	Email	ADHS Certified	APS Sites Using this Laboratory
Ken Baker	4645 E. Cotton Center Blvd., Building 3, Suite 189 Phoenix, Arizona 85040	(602) 659-7624	ken.baker@testamericainc.com	Yes	
Daphne Richards	1206 Lebanon Road Mount Juliet, TN 37122	(615) 758-5858	daphne.richards@pacelabs.com	Yes	
Kristi McFarlin	17631 N 25th Ave Phoenix, AZ 85023	(602) 324-6100	kmcfarlin@legend-group.com	Yes	
Beth Profitt	2015 Lundy Ave. San Jose, CA 95131	(602) 501-5673 (local) (408) 588-0200 (CA)	elizabeth.proffitt@SGS.com	Yes	
Debbie Zufelt	75 Suttle Street Durango, CO 81303	(970) 247-4220	dzufelt@greenanalytical.com	No	
Skip Harden	2525 West Huntington Drive, Suite 102 Tempe, AZ 85282	(480) 355-0900	skip.harden@xenco.com	Yes	
Kyle Vagadori	180 Blue Ravine Road Folsom, CA 95630	(916) 985-1000	kylevagadori@eurofinsus.com	Yes	
Cyrus Razmara	2834 North Naomi Street Burbank, California 91504	(818) 845-8200	cyrus@aetlab.com	No	PAHs only
Steve Rice	2121 W Cheryl Drive Phoenix, Arizona	(602) 291-1269	steve.rice@aps.com	Yes	
Michael Breu	5025 S. 33rd Street Phoenix, AZ 85040	(602) 276-6139	michaelb@fiberquant.com	Yes	
Robert Metzger	3245 N Washington St Chandler, AZ 85225	(480) 897-9459	mmetzger@radsafe.com		
Dave Winters	1525 W. University Dr. Suite 106 Tempe, AZ 85280	(480) 921-8044	dwinters@aquaticconsulting.com	Yes	

Appendix E
Laboratory Variances

Appendix D

Chain of Custody (Examples)

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: **CCR**

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	**Date:** 05/16/22
Arizona Public Service	(602) 250-3608	**Lab Contact:** Rachel Sester	**Carrier:** NA
4801 Cholla Lake Rd	**Analysis Turnaround Time**		
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS		
(928) 587-0319 Phone	TAT if different from Below _____		
FAX	☑ 2 weeks		
Project Name: CCR Groundwater Monitoring	☐ 1 week		
Site: APS Four Corners Power Plant (CWTP)	☐ 2 days		
PO #: 100617121	☐ 1 day		

COC No: 1 of 1 COCs

Sampler: Isaac Torres, Mari Wuollet

For Lab Use Only:
Walk-in Client:
Lab Sampling:

Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 (Total Hg)	Sample Specific Notes:
FC-CCR-MW62-0522	5/13/2022	08:45	G	GW	2	N	N	X	X	X	X	X	X	Low flow
FC-CCR-MW63-0522	5/13/2022	09:56	G	GW	6	N	Y	X	X	X	X	X	X	Low flow, MS + MSD included
FC-CCR-MW64-0522	5/13/2022	11:07	G	GW	2	N	N	X	X	X	X	X	X	Low flow
FC-CCR-MW65-0522	5/13/2022	12:15	G	GW	2	N	N	X	X	X	X	X	X	"
FC-CCR-CWTP-0522	5/13/2022	13:22	G	GW	2	N	N	X	X	X	X	X	X	Surface water grab sample
FC-CCR-FD01-0522	5/13/2022	14:14	G	GW	2	N	N	X	X	X	X	X	X	Low flow, field duplicate

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Client Information

Name:	**Natalie Chrisman**
Company	**Arizona Public Service**
Address	**4801 Cholla Lake Rd, Joseph City, AZ 86032**
Phone	**928-587-0319**
Site	**APS Four Corners Power Plant (CWTP)**

Radiation Safety Engineering, Inc.

3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
FC-CCR-MW62-0522	**5/13/2022**	**08:45**	**GW**						**X**	**X**	**X**					
FC-CCR-MW63-0522	**5/13/2022**	**09:56**	**GW**						**X**	**X**	**X**					
FC-CCR-MW64-0522	**5/13/2022**	**11:07**	**GW**						**X**	**X**	**X**					
FC-CCR-MW65-0522	**5/13/2022**	**12:15**	**GW**						**X**	**X**	**X**					
FC-CCR-CWTP-0522	**5/13/2022**	**13:22**	**GW**						**X**	**X**	**X**					
FC-CCR-FD01-0522	**5/13/2022**	**14:14**	**GW**						**X**	**X**	**X**					

Sample Receipt	
Total No. of Containers	**16**
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:

Instructions/Comments

Method HPGe

Sampled by Isaac Torres, Mari Wuollet

Relinguished By:	Company:	Date/time:	Received By:		Company:	Date/time:
Relinguished By:	Company:	Date/time:	Received By:		Company:	Date/time:
Relinguished By:	Company:	Date/time:	Received By:		Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Appendix E

APS Global EDD Guidance

Sequence #	Destination Column	Description
1	FIELD_SAMPLE_ID	ID assigned to the sample by field sampling team or other site, facility, or project personnel.
2	LAB_ID	ID assigned to a laboratory. This should be a meaningful value as it is used in many drop-down lists.
3	ANALYTICAL_METHOD	Number/ID of an analytical method.
4	ANALYSIS_DATE	Date sample was analyzed.
5	PARAMETER_CODE	ID/Code assigned to the analytical parameter. This should be the CAS Number unless the parameter does not have one.
6	RESULT_TYPE_CODE	Coded value for type of result. Associated with list of valid values. Typical entries are "TRG" (target), "SPK" (spike), and "TIC" (tentatively identified compound.
7	LAB_RESULT	Result reported by the lab. If the parameter was not detected, the value in this field should be the same as the entry in the LAB_DETECTION_LIMIT column.
8	LAB_UNITS	Units associated with the entries in the LAB_RESULT, ORIGINAL_LAB_RESULT, and LAB_DETECTION_LIMIT columns in the FIELD_SAMPLE_RESULT and LAB_SAMPLE_RESULT tables.
9	LAB_DETECTION_LIMIT	The lab reporting limit should be recorded in this field. This is the lowest concentration at which an analyte can be detected in a sample and its concentration reported with a reasonable degree of accuracy and precision.
10	LAB_MATRIX	Matrix of the lab sample.
11	LAB_SAMPLE_ID	Internal ID assigned to the sample by the lab.
12	ANALYSIS_TIME	Time that a sample was analyzed.
13	LAB_QUALIFIER	Qualifier assigned to the analytical result by the lab.
14	DILUTION_FACTOR	Dilution factor.
15	PREP_METHOD	Method used to extract or otherwise prepare the sample prior to analysis.
16	PREP_DATE	Date that sample was extracted or otherwise prepared.
17	ANALYSIS_LOT_ID	ID assigned to an analysis lot by the lab.
18	SAMPLE_DELIVERY_GROUP	ID/Name of sample delivery group (SDG).
19	LAB_BLANK_SAMPLE_ID	ID of the lab sample blank associated with the analysis.
20	ERROR	Error/uncertainty associated with a radiological result.
21	PARAMETER_NAME	Name of the analytical parameter.
22	ANALYSIS_TYPE_CODE	Coded value designating the type of analysis. Associated with list of valid values. Typical entries include INIT (Initial), REEXT (Reextraction), and REANL (Reanalysis).
23	FILTERED_FLAG	Flag (generally Y/N) indicating whether the sample was filtered by lab. At a project's/site's discretion, this value can be updated if sample was initially filtered in the field.
24	LEACHED_FLAG	Flag (generally Y/N) indicating whether the sample was leached. Associated with list of valid values.
25	LEACHATE_METHOD	Method used to leach the sample.
26	LEACHATE_DATE	Date sample was leached or otherwise prepared.
27	LEACHATE_TIME	Time that sample was leached.
28	SAMPLE_PREP_LOT_ID	ID assigned to sample preparation or extraction lot by lab.
29	LEACHATE_LOT_ID	ID assigned to the leachate lot by the lab.
30	PREP_TIME	Time that sample was extracted or otherwise prepared.
31	METHOD_DETECTION_LIMIT	Standard method detection limit (MDL) as defined by US EPA.
32	SAMPLE_DATE	Date field sample collected in field or date or origin of lab sample.
33	SAMPLE_PURPOSE	Coded value identifying purpose of sample. Associated with list of valid values. Typical entries in this column are "REG" (regular sample), "FD" (field duplicate), and "TB" (trip blank).
34	ORIGINAL_LAB_RESULT	This column in the LAB_SAMPLE_RESULT table stores the concentration of the parameter in the sample. However, if the result is associated with a field sample that has been spiked, then the value in this column should be the original concentration of the parameter in the field sample before it was spiked. In the FIELD_SAMPLE_RESULT table, this column stores the result reported by the lab. This value will be identical to the entry in the LAB_RESULT column unless a data validator has modified the latter.
35	SPIKE_ADDED	Amount of spike added to sample.
36	SPIKED_RESULT	Measured value of spike analyte.
37	SPIKE_RECOVERY	Percent recovery of spiked volume.
38	RPD	Calculated relative percent difference (RPD).
39	RPD_LIMIT	Upper limit for relative percent difference (RPD).
40	UPPER_LIMIT	Upper QC (recovery) limit.
41	LOWER_LIMIT	Lower QC (recovery) limit.
42	ANALYSIS_SUBCONTRACTED_FLAG	Flag (Y/N) indicating whether analysis was subcontracted to another lab.
43	SUBCONTRACT_LAB_ID	ID of lab to which analysis was subcontracted. Required by Geotracker in which equivalent column is SUB.

EDD Format Requirements

Field	Required	Must Be Date	Must Be Number	Maximum Length	Has List of Values	Part of Unique Index	Default Value Available	Populated by EIM	Field in EDD	Position in EDD	Description	Comments
FIELD_SAMPLE_ID	Cond	N	N	30	Y	Y	N	N	Y	1	ID assigned to the sample by field sampling team or other site, facility, or project personnel.	Must be left blank for lab-originated samples (e.g., lab control samples, method blanks, blank spikes, etc.). Should be populated for lab duplicates and matrix spikes and duplicates (if the sample that is spiked is the client sample). Except for those formats in which all required field sample information is present in the EDD itself, the Field Sample ID must be entered beforehand into the Field Sample table. If not, or if the Field Sample ID reported by the lab is different from that in EIM, then not one, but as many as three errors will be generated. One will refer to the fact that the Field Sample ID is missing or if reported incorrectly, not in the list of values. The other two will be errors associated with the REPORT RESULT and REPORT UNITS fields, namely, that a Required Value Calculated Or Derived From Database Is Missing.
LAB_ID	Y	N	N	10	Y	Y	N	N	Y	2	ID assigned to a laboratory. This should be a meaningful value as it is used in many drop-down lists.	
ANALYTICAL_METHOD	Y	N	N	30	Y	Y	N	N	Y	3	Number/ID of an analytical method.	
ANALYSIS_DATE	Y	Y	N		N	Y	N	N	Y	4	Date sample was analyzed.	
PARAMETER_CODE	Y	N	N	12	Y	Y	Y	N	Y	5	ID/Code assigned to the analytical parameter. This should be the CAS Number unless the parameter does not have one.	
RESULT_TYPE_CODE	Y	N	N	5	Y	Y	Y	N	Y	6	Coded value for type of result. Associated with list of valid values. Typical entries are "TRG" (target), "SPK" (spike), and "TIC" (tentatively identified compound.	Generally, the entry in the sample purpose field determines whether a result ends up in the Field or Lab Sample Result tables. The one exception is Surrogates. Those associated with Field Samples are loaded into the Lab Sample Result table.
LAB_RESULT	Cond	N	Y	15	N	N	N	Opt	Y	7	Result reported by the lab. If the parameter was not detected, the value in this field should be the same as the entry in the LAB_DETECTION_LIMIT column.	Required of all samples except surrogates and spikes. If not detected, enter the laboratory reporting limit here unless project requirements dictate that nondetects be reported at the method detection limit. Results for spikes and surrogates are reported in the SPIKE_ADDED, SPIKED_RESULT, and SPIKE_RECOVERY fields.
LAB_UNITS	Y	N	N	10	Y	N	N	N	Y	8	Units associated with the entries in the LAB_RESULT, ORIGINAL_LAB_RESULT, and LAB_DETECTION_LIMIT columns in the FIELD_SAMPLE_RESULT and LAB_SAMPLE_RESULT tables.	Enter the units associated with the entry in the LAB_RESULT or SPIKED_RESULT column.
LAB_DETECTION_LIMIT	Y	N	N	15	N	N	Y	N	Y	9	The lab reporting limit should be recorded in this field. This is the lowest concentration at which an analyte can be detected in a sample and its concentration reported with a reasonable degree of accuracy and precision.	
LAB_MATRIX	Y	N	N	10	Y	N	N	N	Y	10	Matrix of the lab sample.	
LAB_SAMPLE_ID	Y	N	N	20	N	N	N	N	Y	11	Internal ID assigned to the sample by the lab.	Often historical data do not have a lab sample ID, and as such, this field can be left blank in EIM. However, all new data should have an entry in this field. The validation module will not work without it.
ANALYSIS_TIME	Y	N	N	5	N	Y	Y	N	Y	12	Time that a sample was analyzed.	
LAB_QUALIFIER	N	N	N	20	N	N	N	N	Y	13	Qualifier assigned to the analytical result by the lab.	In the Validation module, entries with a U in them are assumed to be nondetects and those with a J estimated values.
DILUTION_FACTOR	N	N	Y	10	N	N	N	N	Y	14	Dilution factor.	Should be provided when sample is diluted.
PREP_METHOD	N	N	N	20	Y	N	N	N	Y	15	Method used to extract or otherwise prepare the sample prior to analysis.	Report a value only if sample was extracted or otherwise prepped before it was analyzed.
PREP_DATE	N	Y	N		N	N	N	N	Y	16	Date that sample was extracted or otherwise prepared.	Report a value only if sample was extracted or otherwise prepped before it was analyzed.
ANALYSIS_LOT_ID	N	N	N	20	N	N	N	N	Y	17	ID assigned to an analysis lot by the lab.	Although Sample Prep Lot ID is not a required field, it or Analysis Lot ID must be populated for EIM's validation module to work.

Field	Required	Must Be Date	Must Be Number	Maximum Length	Has List of Values	Part of Unique Index	Default Value Available	Populated by EIM	Field in EDD	Position in EDD	Description	Comments
SAMPLE_DELIVERY_GROUP	N	N	N	20	N	N	N	N	Y	18	ID/Name of sample delivery group (SDG).	Although Sample Delivery Group is not a required field, it must be populated for EIM's validation module to work.
LAB_BLANK_SAMPLE_ID	N	N	N	20	N	N	N	N	Y	19	ID of the lab sample blank associated with the analysis.	This field can be left blank (could not resist it) unless more than one method blank is run in a given batch. For these cases, Lab Sample ID of the appropriate Method Blank is entered here. The value NA is not acceptable.
ERROR	N	N	Y	15	N	N	N	N	Y	20	Error/uncertainty associated with a radiological result.	
PARAMETER_NAME	Y	N	N	60	N	N	N	N	Y	21	Name of the analytical parameter.	
ANALYSIS_TYPE_CODE	Y	N	N	5	Y	Y	Y	N	Y	22	Coded value designating the type of analysis. Associated with list of valid values. Typical entries include INIT (Initial), REEXT (Reextraction), and REANL (Reanalysis).	
FILTERED_FLAG	Y	N	N	1	Y	Y	Y	N	Y	23	Flag (generally Y/N) indicating whether the sample was filtered by lab. At a project's/site's discretion, this value can be updated if sample was initially filtered in the field.	
LEACHED_FLAG	Y	N	N	1	Y	Y	Y	N	Y	24	Flag (generally Y/N) indicating whether the sample was leached. Associated with list of valid values.	
LEACHATE_METHOD	N	N	N	20	N	N	N	N	Y	25	Method used to leach the sample.	
LEACHATE_DATE	N	Y	N		N	N	N	N	Y	26	Date sample was leached or otherwise prepared.	
LEACHATE_TIME	N	N	N	5	N	N	N	N	Y	27	Time that sample was leached.	
SAMPLE_PREP_LOT_ID	N	N	N	20	N	N	N	N	Y	28	ID assigned to sample preparation or extraction lot by lab.	Although Sample Prep Lot ID is not a required field, it or Analysis Lot ID must be populated for EIM's validation module to work.
LEACHATE_LOT_ID	N	N	N	20	N	N	N	N	Y	29	ID assigned to the leachate lot by the lab.	
PREP_TIME	N	N	N	5	N	N	N	N	Y	30	Time that sample was extracted or otherwise prepared.	
METHOD_DETECTION_LIMIT	N	N	N	15	N	N	N	N	Y	31	Standard method detection limit (MDL) as defined by US EPA.	
SAMPLE_DATE	Cond	Y	N		N	N	N	Var	Y	32	Date field sample collected in field or date or origin of lab sample.	Should be populated only for lab originated samples (method blanks, blank spikes and duplicates, and lab control samples and duplicates).
SAMPLE_PURPOSE	Cond	N	N	5	Y	N	N	Var	Y	33	Coded value identifying purpose of sample. Associated with list of valid values. Typical entries in this column are "REG" (regular sample), "FD" (field duplicate), and "TB" (trip blank).	Should be populated only for matrix spikes and duplicates, method blanks, lab control samples and duplicates, blank spikes and duplicates, lab replicates or duplicates, or any other lab originated or transformed samples.
ORIGINAL_LAB_RESULT	N	N	Y	15	N	N	N	Y	Y	34	This column in the LAB_SAMPLE_RESULT table stores the concentration of the parameter in the sample. However, if the result is associated with a field sample that has been spiked, then the value in this column should be the original concentration of the parameter in the field sample before it was spiked. In the FIELD_SAMPLE_RESULT table, this column stores the result reported by the lab. This value will be identical to the entry in the LAB_RESULT column unless a data validator has modified the latter.	Should be populated only for matrix spikes, matrix spike duplicates, and lab replicates or duplicates.
SPIKE_ADDED	N	N	Y	17	N	N	N	N	Y	35	Amount of spike added to sample.	
SPIKED_RESULT	N	N	Y	15	N	N	N	N	Y	36	Measured value of spike analyte.	
SPIKE_RECOVERY	N	N	Y	10	N	N	N	N	Y	37	Percent recovery of spiked volume.	
RPD	N	N	Y	10	N	N	N	N	Y	38	Calculated relative percent difference (RPD).	
RPD_LIMIT	N	N	Y	10	N	N	N	N	Y	39	Upper limit for relative percent difference (RPD).	
UPPER_LIMIT	N	N	Y	10	N	N	N	N	Y	40	Upper QC (recovery) limit.	
LOWER_LIMIT	N	N	Y	10	N	N	N	N	Y	41	Lower QC (recovery) limit.	
ANALYSIS_SUBCONTRACTED_FLAG	N	N	N	1	Y	N	N	N	Y	42	Flag (Y/N) indicating whether analysis was subcontracted to another lab.	Y (Yes), N (No) or null
SUBCONTRACT_LAB_ID	N	N	N	10	Y	N	N	N	Y	43	ID of lab to which analysis was subcontracted. Required by Geotracker in which equivalent column is SUB.	

Example EDD

FIELD_SAMPLE_ID	LAB_ID	ANALYTICAL_METHOD_ID	ANALYSIS_DATE	PARAMETER_CODE	RESULT_TYPE_CODE	LAB_RESULT	LAB_UNITS	LAB_DETECTION_LIMIT	LAB_MATRIX	LAB_SAMPLE_ID	ANALYSIS_TIME	LAB_QUALIFIER	DILUTION_FACTOR	PREP_METHOD	PREP_DATE	ANALYSIS_LOT_ID	SAMPLE_DRAWDOWN_DESCRIP	LAB_BLANK_SAMPLE_ID	ERROR	PARAMETER_NAME	ANALYSIS_TYPE_CODE	FILTERED_FLAG	LEACHED_FLAG	LEACHATE_METHOD	LEACHATE_DATE	LEACHATE_TIME	SAMPLE_PREP_LOT_ID	LEACHATE_LOT_ID	PREP_TIME	METHOD_DETECTION_LIMIT	SAMPLE_DATE	SAMPLE_PURPOSE	ORIGINAL_LAB_REF_NO	SPIKE_ADDED	SPIKED_RESULT	SPIKE_RECOVERY	RPD	RPD_LIMIT	UPPER_LIMIT	LOWER_LIMIT	ANALYSIS_SUBCONTRACTED_FLAG	SUBCONTRACT_LAB_ID

APPENDIX

B

STATISTICAL DATA ANALYSIS WORK PLAN

ARIZONA PUBLIC SERVICE COMPANY

STATISTICAL DATA ANALYSIS WORK PLAN

COAL COMBUSTION RESIDUALS RULE GROUNDWATER MONITORING SYSTEM COMPLIANCE

January 10, 2023

Please be advised that, effective September 21, 2022, Wood Environment & Infrastructure Solutions, Inc. Was acquired by WSP. Due to the acquisition, we have changed our name to WSP USA Environment & Infrastructure Inc. No other aspects of our legal entity or capabilities have changed for this report, including our Federal Tax ID which remains 91-1641772. Correspondence for this report should continue to be addressed to the undersigned.

STATISTICAL DATA ANALYSIS WORK PLAN

COAL COMBUSTION RESIDUALS RULE GROUNDWATER MONITORING SYSTEM COMPLIANCE

ARIZONA PUBLIC SERVICE COMPANY

PROJECT NO.: 14-2022-2006
DATE: JANUARY 10, 2023

WSP USA ENVIRONMENT & INFRASTRUCTURE INC.
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CERTIFICATION STATEMENT

I, Rebecca Weaver, as a qualified groundwater scientist and professional engineer have reviewed the *Statistical Data Analysis Work Plan*, Four Corners Power Plant, Fruitland, New Mexico, Project # 14-2022-2006 dated January 09, 2023. I certify that statistical methods described herein are appropriate for the Arizona Public Service Company Four Corners Power Plant site as required for compliance with CCR groundwater monitoring, corrective action, closure, and post-closure requirements detailed in 40 CFR §257.90 through §257.104.

PREPARED BY

Rebecca Weaver
New Mexico PE License 26773

REBECCA A. WEAVER
NEW MEXICO
26773
1/12/2023
PROFESSIONAL ENGINEER

APPROVED[1] BY *(must be reviewed for technical accuracy prior to approval)*

Maren Henley
Associate Geological Engineer

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ACRONYMS AND ABBREVIATIONS

%	percent
§	Section
amsl	above mean sea level
ANOVA	analysis of variance
APS	Arizona Public Service
ASD	Alternative source demonstration
BTV	Background Threshold Values
CCR	Coal combustion residuals
CFR	Code of Federal Regulations
CSM	Conceptual Site Model
CWTP	Combined Waste Treatment Pond
DFADA	Dry Fly Ash Disposal Area
DQR	Double Quantification Rule
EDA	Exploratory Data Analysis
FCPP	Four Corners Power Plant
ft	foot, feet
GWPS	groundwater protection standard
KM	Kaplan-Meier
LAI	Lined Ash Impoundment
LDWP	Lined Decant Water Pond
LPL(s)	lower prediction limit(s)
Multiunit 1	CCR multiunit comprised of LAI and LDWP
MCL	Maximum Contaminant Level
NPDES	National Pollutant Discharge Elimination System
RL	Reporting limit
ROS	Regression on order statistics
RWP	Return Water Pond
SDAWP	Statistical Data Analysis Work Plan
SSI	Statistically significant increases
SSL	Statistically significant levels
SWFPR	Sitewide false positive rate
TDS	Total dissolved solids
UPL(s)	upper prediction limit(s)
URS	Upper Retention Sump
USEPA	United States Environmental Protection Agency
UTL(s)	upper tolerance limit(s)
VSP	Visual Sampling Plan

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Wood	Wood Environment & Infrastructure Solutions, Inc.
WSP	WSP USA

1 INTRODUCTION

This Statistical Data Analysis Work Plan (SDAWP) has been prepared in collaboration by WSP USA (WSP) formerly conducting business as Wood Environment & Infrastructure Solutions, Inc. (Wood) and Geoscience Consulting Strategies LLC on behalf of Arizona Public Service Company (APS) for the Four Corners Power Plant (FCPP, Four Corners, or the Site) located in Fruitland, New Mexico. This SDAWP details the scope and implementation of statistical criteria and procedures to evaluate site data for coal combustion residuals (CCR) surface impoundments and landfills (CCR Units) in accordance with CCR requirements detailed in 40 Code of Federal Regulations (CFR) Sections (§) 257.90 through 257.98 (herein referred to as the CCR Rule) (Federal Register, 2020). The purpose of this SDAWP is to prescribe a comprehensive workflow that allows practitioners to defensibly evaluate groundwater data and assess if groundwater quality at the FCPP meets the criteria set forth in the CCR Rule.

The SDAWP was updated in October 2018 to incorporate the evaluation of assessment monitoring data (Wood, 2018). Minor organizational and editorial changes to existing sections of the report were also made for clarity and readability. The SDAWP was updated again in June 2020 to reflect the addition of the Return Water Pond (RWP) CCR Unit and associated monitoring well network to the FCPP CCR groundwater monitoring program (Wood, 2020a). This 2022 update to the SDAWP is intended to supplement previous documentation and present a comprehensive approach for performing statistical analyses of site groundwater data from the detection and assessment monitoring programs to corrective action, closure, and post-closure.

1.1 OBJECTIVES

The SDAWP will serve as a reference document throughout the FCPP CCR groundwater monitoring program to:

- Assess the adequacy of sampled data to service statistical procedures (Sections 1.0 and 2.0);
- Select appropriate statistical methods for each constituent and monitoring well pairing (Sections 2.0 through 5.0);
- Develop background constituent concentration levels, otherwise known as Background Threshold Values (BTVs) (Section 4.0);
- Develop groundwater protection standards (GWPSs) (Section 5.0);
- Identify statistically significant increases (SSIs) in constituent concentrations over BTVs and statistically significant levels (SSLs) of constituent concentrations above GWPSs (Sections 3.0 through 5.0);
- Determine the appropriate workflow under detection monitoring (Section 4.0), assessment monitoring (Section 5.0), corrective action (Section 6.0) and closure and post-closure (Section 7.0), as necessary; and
- Make recommendations for future sampling and data evaluations (Section 9.0).

1.2 CONCEPTUAL SITE MODEL

CCR groundwater monitoring systems must collect the right type, quantity, and quality of data to

assess groundwater quality adequately and defensibly as set forth in the CCR Rule. Although certification of the FCPP CCR groundwater monitoring systems has been conducted independent of this SDAWP, a baseline conceptual understanding of the site's industrial activities, geology, and hydrogeology is necessary to assess the adequacy of the groundwater monitoring system to sample representative data and statistically evaluate whether groundwater has been adversely impacted by effects from one or more site CCR units.

The Conceptual Site Model (CSM) constitutes a 'living representation' of a site that helps project members hypothesize, visualize, interpret, and understand site-specific information (USEPA, 2011). This information is utilized throughout different stages of the project lifecycle to make informed decisions regarding monitoring system design, data evaluation, corrective actions, and/or site closure. A baseline CSM establishes a reconnaissance understanding of the site using a framework of preexisting site-specific information that portrays both known and hypothesized information about the site. Development of a baseline CSM for the site is necessary for developing the groundwater monitoring systems. The baseline CSM is used to help determine if the groundwater monitoring system(s) meets the criteria set forth in 40 CFR §257.91 (b)(1) and §257.91(b)(2) and is updated as needed throughout the life of the project.

Wood has relied upon the CCR monitoring well network certification reports (AECOM, 2017 and Wood, 2020b) for details of both the previously documented baseline and updated hydrogeological CSMs used to design the CCR groundwater monitoring systems for CCR Units at the FCPP and evaluate collected data. Salient information regarding the hydrogeologic CSM is extracted from these reports (unless noted otherwise) and summarized in the following subsections to document:

- Preexisting site-specific information;
- The adequacy of groundwater monitoring networks to assess groundwater quality; and
- The appropriateness of background and downgradient well classifications for statistically evaluating whether groundwater has been affected by leakage from one or more site CCR units.

More detailed information regarding the CSM is present in the *Annual Groundwater Monitoring and Corrective Action Report for 2021,* prepared by Wood (Wood, 2022c). This CSM may be refined based on the results of the statistical evaluation of water quality data.

1.2.1 SITE DESCRIPTION

The Site is located in a semi-arid climate on the western flank of the New Mexico's San Juan Basin, which receives on average 8.6 inches of rain and 12.6 inches of snow annually (Figure 1-1). Elevation of the Site is approximately 5,340 to 5,360 feet (ft) above mean sea level (amsl) in the Colorado Plateau physiographic province of northwestern New Mexico. The San Juan Basin is a structural depression that lies at the eastern edge of the Colorado Plateau (Dames & Moore, 1988). The area is characterized by rolling terrain, steep escarpments, and incised drainages/arroyos, but in the vicinity of the plant, the ground surface is relatively flat, sloping to the west. Near the plant, however, surface drainage immediately near Morgan Lake flows toward the lake (Figure 1-2). About one mile west of the plant, the level ground surface drops rapidly to 5,200 ft amsl. Chaco Wash (a.k.a. Chaco River) is located west of this abrupt change in elevation and ephemerally flows north to the San Juan River (Figure 1-2). Morgan Dam (the dam for Morgan Lake) discharges to 'No Name Wash' which flows west of the lake to Chaco Wash (Figure 1-2). The dominant geographic feature near the FCPP is the Hogback Monocline located to the west of Chaco Wash; this monocline is a steep (38 degree) eastward-dipping flank composed of Cretaceous sedimentary rock (Dames & Moore, 1988).

The FCPP is a low sulfur coal-fired power plant with two operating electrical generating units (Units 4

and 5) with a net generating capacity of 1,540 megawatts. Coal burned at the plant is sourced from the nearby Navajo Mine.

The plant and associated infrastructure are approximately 20 miles southwest of Farmington, New Mexico, located on land leased from the Navajo Nation (Figure 1-1). The main plant area is located on the southern bank of Morgan Lake, an approximately 1,300-acre man-made lake which supplies cooling water to the plant. Morgan Lake was formed by damming a westerly flowing stream (now known as 'No Name Wash') and is replenished by an underground pipeline that routes flow from the San Juan River located approximately 3 miles north of the FCPP. The typical water surface elevation of the lake is 5,330 ft above mean sea level (amsl).

Plant infrastructure includes four single CCR Units (Figure 1-2) and one CCR multiunit, of which further details are presented in Table 1-1:

- The one site multiunit, Multiunit 1 (referred to as the Multiunit), is comprised of the Lined Ash Impoundment (LAI) and the Lined Decant Water Pond (LDWP). The LAI is a 126.8-acre impoundment that previously received slurried fly ash, flue gas desulfurized waste, and associated residuals (CCR discharges to the LAI ceased as of April 10, 2021). The LDWP is a 45-acre pond which receives decanted water from the LAI. Both the LAI and LDWP are underlain by closed ash ponds, localized alluvium and the weathered Lewis Shale. The Multiunit will be closed in place and has a planned closure completion date of late 2028. As of the date of this SDAWP, the Multiunit is in the corrective action phase of the CCR groundwater monitoring program. Details of the closure activities are provided in *Four Corners Power Plant Closure Plan §257.102(b) Lined Ash Impoundment,* prepared by AECOM (AECOM, 2016b) and *Four Corners Power Plant Closure Plan §257.102(b) Lined Decant Water Pond,* prepared by AECOM (AECOM, 2016c).
- The Combined Waste Treatment Pond (CWTP) is a single 13.4-acre impoundment that was formerly used as a detention pond for plant wastewaters prior to discharge in accordance a National Pollutant Discharge Elimination System (NPDES) permit (all discharges including CCR discharges to the CWTP ceased as of November 23, 2020). The CWTP is underlain by the Pictured Cliffs Sandstone and fill materials adjacent to Morgan Lake and the groundwater in the area and underlying the CWTP is strongly influenced by the lake.. CCR unit closure by removal has begun. As of the date of this SDAWP, the CWTP is in the detection monitoring phase of the CCR groundwater monitoring program. The planned closure date of the CWTP is late 2025. Details of the closure activities are provided in *Four Corners Power Plant Closure Plan §257.102(b) Combined Waste Treatment Pond,* prepared by AECOM (AECOM, 2016a).
- The Dry Fly Ash Disposal Area (DFADA) is a 137.7-acre CCR landfill which receives dry fly and bottom ash, blended fly ash and flue gas desulfurization solids, and construction debris. The DFADA is also underlain by the Weathered Lewis Shale, a geological unit continuous in the area of the DFADA and Multiunit. The DFADA CCR monitoring network continues to indicate unsaturated conditions beneath the CCR Unit as of the date of this SDAWP. The DFADA is in detection monitoring phase of the CCR groundwater monitoring program. Closure of the DFADA is to occur following permanent cessation of coal-fired boilers with no currently planned closure date. Details of the closure activities are provided in *Four Corners Power Plant Closure Plan §257.102(b) Dry Fly Ash Disposal Area, Revision 1*, prepared by AECOM (AECOM, 2020a).
- The Return Water Pond (RWP) is a 5.1-acre impoundment for the temporary storage of flue gas desulfurization system waste, LAI drain down, treated sewage wastewater flow, and waters pumped from the site seepage collection system. The RWP is underlain by the Pictured Cliffs Sandstone,

which was noted to be locally unsaturated when the CCR Unit was placed into service in 2020... Closure of the RWP is to occur following permanent cessation of coal-fired boilers with a planned closure date of late 2033. Details of the closure activities are provided in *Four Corners Power Plant Closure Plan §257.102(b) Return Water Pond,* prepared by AECOM (AECOM, 2020b).

— The Upper Retention Sump (URS) was a small, unlined, 1.07-acre impoundment that served as the surge pond for the flue gas desulfurization system (CCR discharges to the URS ceased as of December 10, 2018). The URS is underlain by the Pictured Cliffs Sandstone where. groundwater is influenced by Morgan Lake. The URS was closed by removing CCR materials in accordance with 257.102(c) and replaced with a reinforced concrete tank (Upper Retention Tank). As of the date of this SDAWP the URS is in the corrective action phase of the CCR groundwater monitoring program. Details of the closure activities are provided in *Four Corners Power Plant Closure Plan §257.102(b) Upper Retention Sump,* prepared by AECOM (AECOM, 2016d)

The relatively higher-elevation area where the plant operations are located is generally referred to as the "plant area"; the relatively lower-elevation area west of the plant where the DFADA and Multiunit 1 CCR Units are located is often referred to as the "disposal area" (Figure 1-2).

1.2.2 SITE GEOLOGY

There are two uppermost geologic units that underlie the FCPP site and CCR Units. These geologic units are expected to influence groundwater flow and variations in naturally occurring constituent concentrations across the site. The units are as follows:

— **Pictured Cliffs Sandstone**: The Pictured Cliffs Sandstone is the uppermost geologic unit beneath the plant area and the CCR units located in this vicinity (i.e., the URS, RWP, and the CWTP as depicted in Figure 1-2). This geologic unit is a fine- to medium-grained marine sandstone. The lower portions of the Pictured Cliffs Sandstone represent a transitional sequence between this formation and the underlying Lewis Shale as indicated by alternating thin beds of very fine-grained sandstone and silty shale. The Pictured Cliffs Sandstone forms a capstone on an exposed cliff face located between the plant site and the CCR units located to the west (i.e., the LAI, LDWP, and the DFADA).

— **Lewis Shale**: The Lewis Shale is a marine shale that contains evaporite deposits resulting in naturally occurring saline groundwater conditions. The Lewis Shale is the uppermost geologic unit that underlies the LAI, LDWP, and DFADA and spans west of the Pictured Cliffs Sandstone cliff face approximately 1.5 miles westward to the base of the Hogback Monocline. The regional thickness of the Lewis Shale is approximately 500 ft and is underlain by Cliff House Sandstone. The Lewis Shale consists of a weathered shale subunit overlying a hard, unweathered shale subunit. The thickness of the weathered shale varies between 11 and 47 ft with an average thickness of 30 ft within the vicinity of the site (Dames & Moore, 1988). The weathered shale is not as thick when overlain by Pictured Cliffs Sandstone in the vicinity of the plant site and can be difficult to differentiate within the fine-grained rocks that comprise the gradational contact between the Pictured Cliffs Sandstone and underlying Lewis Shale. The weathered shale contains thin sandstone lenses that vary in thickness from one to seven ft; the sandstone is fine to very fine-grained and cemented by calcium carbonate (Dames & Moore, 1988). The unweathered shale is significantly less permeable than the weathered shale. The unweathered shale is very fine-grained to silty and contains periodic siltstone and sandstone lenses (Dames & Moore, 1988). The surface of the unweathered shale slopes towards

the Chaco Wash at approximately the same slope as land surface (Dames & Moore, 1988) but displays some irregularity resulting in varying levels of saturated thickness in the weathered shale. The Lewis Shale is variably saturated and hydraulically interconnected with alluvial deposits of Chaco Wash. The low-permeability unweathered shale underlying the Pictured Cliffs Sandstone results in a perched saturated zone beneath the plant.

1.2.3 SITE HYDROGEOLOGY

Three general hydrostratigraphic units are conceptualized beneath the FCPP and associated CCR Units that have the potential to interact with releases from CCR units. These hydrostratigraphic units form the basis for the hydrogeologic CSM developed by AECOM (2017) and Wood (2020a and 2020b) for the purpose of designing the site CCR monitoring systems and establish the working basis for statistically evaluating groundwater conditions underlying the site.

The first hydrogeologic unit (Pictured Cliffs Sandstone) is dominant only under the plant area, which is located in an elevated area south of Morgan Lake (Figure 1-2). Three CCR units (i.e., the URS, RWP, and CWTP) reside within this area. The Pictured Cliffs Sandstone is the uppermost water bearing unit for the plant area and extends from ground surface (between approximately 5,340 to 5,360 ft amsl) to approximately 5,300 ft amsl in the plant area. Groundwater in this area generally flows northward towards Morgan Lake, which has a surface elevation of approximately 5,330 ft amsl. In the vicinity of the RWP the Pictured Cliffs Sandstone is unsaturated. Construction and operations of the plant have resulted in disturbed surface conditions in the plant area and associated impacts to groundwater are still not well understood. This uncertainty will be considered when interpreting constituent concentrations and any potential impact on adequacy of background well locations.

The second hydrogeologic unit (Weathered Lewis Shale/alluvium) underlies the Pictured Cliffs Sandstone in the plant area and the Multiunit and the DFADA CCR units (Figure 1-2) in the disposal area, approximately one mile west of the plant. The weathered Lewis Shale and the hydraulically-connected alluvial deposits along Chaco Wash are designated as the uppermost water bearing unit in the disposal area. Although the Lewis Shale is geologically continuous in this area, it is unsaturated in the vicinity of the DFADA. The water table in the weathered Lewis Shale can exhibit local seasonal fluctuations that are attributed to interactions between groundwater recharge and discharge rates (Dames & Moore, 1988) from/to Morgan Lake, historical unlined ponds, and Chaco Wash. Groundwater flow generally follows the surface topography and descends to the west-southwest in the disposal area, mainly in the weathered shale and in local alluvial channels that drain toward the Chaco Wash (APS, 2013).

The third hydrogeologic unit (Unweathered Lewis Shale) consists of the unweathered Lewis Shale and is a regionally-extensive confining unit that forms the base of the uppermost aquifers in the plant and disposal areas. Although minor amounts of water may be present in the Unweathered Lewis Shale, this unit is thick (hundreds of feet) and acts as an aquitard between the Weathered Lewis Shale/Alluvium and the underlying Cliff House Sandstone.

1.3 MONITORING SYSTEM SAMPLING ADEQUACY

Multiple monitoring well systems are in place at the FCPP to monitor groundwater conditions beneath the site CCR units. The installation of these networks is summarized in two reports, both of which identify the systems as compliant with 40 CFR §257.91(a) through (e) (AECOM, 2017 and Wood, 2020b). Wood has also prepared an updated Sampling and Analysis Plan (Wood, 2022a) to document the

methods and procedures used to conduct groundwater sampling and evaluate potential impacts of site CCR units.

Sampling coverage and adequacy of the CCR monitoring well networks to facilitate the statistical evaluations detailed in this SDAWP are discussed in the following subsections.

1.3.1 DOWNGRADIENT GROUNDWATER MONITORING WELL NETWORKS

A total of 27 downgradient CCR system monitoring wells are in place at the site to monitor the downgradient groundwater conditions of each CCR unit (Table 1-2). Downgradient boundary wells assess the groundwater conditions at the boundary of each CCR unit and the remaining downgradient wells evaluate the nature and extent of groundwater conditions associated with each CCR unit. Eleven of these monitoring wells are installed in the Lewis Shale. The remaining 16 wells are completed in the Pictured Cliffs Sandstone. These wells are grouped by respective CCR unit, as described below:

- **URS Downgradient Wells (Pictured Cliffs Sandstone)**: At the time the downgradient wells at the URS were installed, the groundwater flow direction underlying the URS was radially outward from the CCR unit. On this basis, five downgradient boundary wells, MW-66, MW-67, MW-68, MW-69, and MW-70 were installed around the perimeter of the URS. Following removal of CCR from the URS and replacement of the unit with a concrete tank, mounding in the vicinity of the former URS subsided; the subsequent direction of groundwater flow was determined to be to the northwest and still generally remains as such (Wood, 2022b), towards Morgan Lake. In 2018, to characterize the nature and extent of impacts from the former unit, monitoring wells MW-83, MW-84, MW-85, and MW-86 were installed downgradient of the unit. Each of these wells are screened within the Pictured Cliffs Sandstone. No further changes have since been made to the URS downgradient monitoring system. The monitoring well designations, spatial density, and coverage of the monitoring well network are adequate and representative unless future observations prove otherwise.
- **RWP Downgradient Wells (Pictured Cliffs Sandstone)**: The RWP is underlain by the Pictured Cliffs Sandstone hydrostratigraphic unit, which is unsaturated beneath the RWP. The next underlying aquifer (in the Cliff House Sandstone) is separated from the CCR unit by several hundred feet of Unweathered Lewis Shale, a regional aquitard. Thus, the groundwater monitoring system is designed to detect potential releases to the Pictured Cliffs Sandstone. Hydrogeologic conditions suggest that a release from the RWP would migrate vertically downward through the permeable and weathered rocks of the Pictured Cliffs Sandstone to the aquitard created by the Unweathered Lewis Shale and laterally along the surface of the Unweathered Lewis Shale in the northeast dip direction of the unit (Wood, 2020b). Therefore, three downgradient boundary monitoring wells, MW-88, MW-89, and MW-90 were installed around the downgradient (northeastern) edge of the RWP in the Pictured Cliffs Sandstone and screened directly above the aquitard formed by the Unweathered Lewis Shale. No changes have since been made to the RWP downgradient monitoring system. The monitoring well designations, spatial density, and coverage of the monitoring well network are adequate and representative unless future observations prove otherwise.
- **CWTP Downgradient Wells (Pictured Cliffs Sandstone):** Similar to the URS, the groundwater flow direction underlying the CWTP was observed to be radially outward from the CCR unit at the time the monitoring system was installed. Four monitoring downgradient boundary wells, MW-62, MW-63, MW-64, and MW-65 were installed around the perimeter of the CWTP. Each of these wells

were assumed to be screened within the Pictured Cliffs Sandstone. In 2019 an alternative source demonstration (ASD) was conducted for the CWTP for exceedances of boron, calcium, fluoride, and pH above their respective BTVs in the downgradient wells (Wood, 2019). The 2019 ASD cited spatially inconsistent groundwater chemistry caused by several factors, not the CWTP, as the source of the exceedances. In 2022 another ASD was conducted for the CWTP for exceedances of boron and pH at MW-65 and MW-63 respectively (Wood, 2022c). The 2022 ASD was consistent with the previous 2019 ASD; it ultimately citied anthropogenic activities associated with plant operational maintenance which impacted subsurface conditions and spatial variability in groundwater conditions as sources of the boron and pH exceedances. The monitoring well designations, spatial density, and coverage of the monitoring well network are currently assessed as adequate but ongoing monitoring of groundwater and surface water is being conducted to evaluate the adequacy of this system.

- **Multiunit 1 Downgradient Wells (Weathered Lewis Shale/Alluvium):** Six downgradient boundary monitoring wells are in place below the toe of the western to southwestern edge of Multiunit 1: MW-7, MW-8, MW-40R, MW-61, MW-75 and MW-76 (Figure 1-2). Two of these wells, MW-40R and MW-76, are routinely either dry or have a limited saturated thickness which typically precludes sampling; the wells are included in the program in case conditions change in the future. One sample was obtained from MW-40R and MW-76 in April of 2021 but conditions have since returned to limited saturated thickness and no further samples have been collected. In 2018, to characterize the nature and extent of impacts from the unit, downgradient monitoring well MW-87 was installed at the western lease boundary near the Chaco Wash. The screened interval for each well resides within the Weathered Lewis Shale/Alluvium. No further changes have since been made to the Multiunit downgradient monitoring system. The monitoring well designations, spatial density, and coverage of the monitoring well network are adequate and representative unless future observations prove otherwise.
- **DFADA Downgradient Wells (Weathered Lewis Shale/Alluvium):** Four downgradient boundary wells are identified downgradient of the DFADA: MW-10, MW-13, MW-44, and MW-48. Each well, except MW-48, is screened within the Weathered Lewis Shale/Alluvium. The screened interval for MW-48 resides within the Unweathered Lewis Shale. The downgradient DFADA wells are known to be dry; this groundwater monitoring system was designed to detect releases since the next underlying aquifer (in the Cliff House Sandstone) is separated from the CCR unit by several hundred feet of Lewis Shale, a regional aquitard. No further changes have been made to the DFADA downgradient monitoring system. The monitoring well designations, spatial density, and coverage of the monitoring well network are adequate and representative unless future observations prove otherwise.

1.3.2 BACKGROUND GROUNDWATER MONITORING WELLS

The purpose of background comparison statistical tests is to assess if groundwater conditions downgradient of the CCR unit indicates a potential impact from the CCR unit. Therefore, it is important to adequately establish background conditions that accurately represent the quality of groundwater that has not been affected by the CCR unit under investigation (40 CFR §257.91).

Per the CCR monitoring well network certification reports (AECOM, 2017 and Wood, 2020b), the following monitoring wells are designated as “background monitoring wells” for the respective geologic and hydrogeologic conditions underlying the FCPP:

- **Background Wells for the Pictured Cliffs Sandstone:** Three wells (MW-71, MW-72, and MW-73) are designated to assess background groundwater quality for the Pictured Cliffs Sandstone. MW-71 and MW-72 are upgradient and MW-73 is cross- to downgradient of the URS, RWP, and CWTP (40 CFR §257.91[a][1] allows the inclusion of wells that are not hydraulically upgradient of the CCR unit when specific conditions are met which include sampling at other wells which provide an indication of background groundwater quality that is as representative). The background well designations are representative and adequate unless future observations prove otherwise.
- **Background Wells for the Weathered Lewis Shale/Alluvium:** Seven existing wells upgradient of Multiunit 1 and the DFADA, including MW-12R1, MW-43, MW-49A, MW-50A, MW-51, MW-55R and MW-74 are designated to assess background groundwater quality for Weathered Lewis Shale/Alluvium. One of these wells could be potentially affected by water from Multiunit 1 (MW-49A) based on its spatial proximity to the unit (AECOM, 2017). Five wells, MW-12R1, MW-43, MW-50A, MW-51, and MW-55R, are routinely either dry or have a limited saturated thickness which precludes sampling; the wells are included in the program in case conditions change in the future. The background well designations are representative and adequate unless future observations prove otherwise.

Background can be established by a single monitoring well or a group of monitoring wells. If a group of monitoring wells is used, these wells should be screened within the same lithologic unit, exhibit similar groundwater chemistry, illustrate similar statistical characteristics, and be consistent with the CSM.

Due to the natural heterogeneity of the geologic and hydrogeologic conditions underlying the FCPP, background constituent concentrations are expected to be spatially heterogeneous (varying) across the site. The site is also expected to exhibit both spatial and temporal heterogeneity attributable to local climatic regimes, potential leakage from Morgan Lake, and potential operational activity at the site. The groundwater monitoring well networks, respective to sampling coverage and frequency, are assumed to adequately evaluate this spatial and temporal heterogeneity, pending further review or until proven otherwise.

The adequacy of designated background monitoring wells will be assessed using groundwater elevation data, boron data, total dissolved solids (TDS) data, a working understanding of the spatial heterogeneity of geochemistry underlying the FCPP, and statistical characteristics of constituents of concern. If achieving adequate and representative background is not possible, alternative statistical comparisons are available for evaluating CCR compliance (i.e., intrawell comparisons) (see Section 3.0).

Historical groundwater chemistry data will be consulted during this evaluation, but data preceding December 2011 will not be relied upon due to noted “matrix interference issues associated with saline waters” in samples analyzed prior to this date (APS, 2013).

2 EXPLORATORY DATA ANALYSIS

Exploratory Data Analysis (EDA) is a diagnostic data evaluation step to assess the groundwater monitoring system's ability to collect the right quantity, quality, and type of data to adequately perform the statistical analyses set forth in 40 CFR §257.93. EDA occurs iteratively throughout the various sample acquisition stages and subsequent data evaluations and services two objectives: 1) ensure the correct statistical method will be selected for determining background concentrations and performing statistical comparisons and 2) evaluate if the data meet the statistical inferences and criteria required to establish background threshold levels and perform statistical comparisons.

In general, the statistical inferences and criteria to complete statistical evaluations under the CCR Rule (§257.23) include:

- the sampled data have no spatial or temporal trend (i.e., are statistically stationary);
- the sampled data are statistically independent of each other;
- the sampled data are representative of a single statistical population; and
- the sampled data follow a discernable distribution.

This Section details methods to determine if the data meet these assumptions. If these assumptions are not met, then data transformations will be explored, including detrending, data domaining, and data normalization. In cases where data transformations are ineffective, nonparametric statistics will be considered.

2.1 DATA EVALUATION OBJECTIVES

Diagnostic data evaluations allow practitioners to become familiar with sampled data to service three primary objectives. The first objective is to identify and resolve any anomalous data quality issues in a timely manner. The second objective is to identify data distributions and patterns that allow practitioners to make informed decisions when selecting a defensible statistical method to assess groundwater quality per 40 CFR §257.93 (f)(1) through (5). The third objective is to update the CSM with relevant information to make informed and defensible project decisions.

2.2 CONSTITUENTS OF CONCERN

Within the scope of this SDAWP, the CCR Rule Appendix III constituents will be evaluated as part of the EDA process, including:

- Boron
- Calcium
- Chloride
- Fluoride
- pH
- Sulfate
- TDS

If there is an SSI declared at a site CCR unit for one or more of the Appendix III constituent concentrations, then the EDA process will ensue for the following Appendix IV constituents except fluoride (since fluoride has already been subjected to the EDA process as part of the Appendix III constituents):

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Lead
- Lithium
- Mercury
- Molybdenum
- Selenium
- Thallium
- Radium 226 and 228 combined

Groundwater elevation, TDS, and boron will hold particular emphasis throughout the EDA process to assess the adequacy of background well classifications.

2.3 NON-DETECTS

Non-detects, also known as left-censored measurements, are values that cannot be quantified according to the laboratory method. There are several approaches for numerically representing nondetect data to complete the data evaluations listed within this SDAWP. For this SDAWP, simple substitution and censor estimation techniques will be used to numerically represent non-detects. These methods will be selected according to sample size, frequency of detection, and method of data evaluation. Simple substitution and censor estimation techniques are described below.

Imputation for geospatial, geostatistical, and time series analyses (Section 2.4) will conform to the simple substitution criteria detailed in Section 2.3.1. Imputation for establishing background constituent concentrations (Section 4.0 and Section 5.0) and performing statistical comparisons will favor censor estimation techniques, where appropriate, and conform to the criteria set forth in this Section.

2.3.1 SIMPLE SUBSTITUTION

Simple substitution is imputation using a qualitatively-derived value, usually equal to the reporting limit (RL), half the RL, zero, or method detection limit, for a nondetect measurement. The RL represents the lowest level that can be reported by a laboratory. For simple substitution, half the RL will be used if the concentration is undetected ("U" qualifier flag) or if samples are reported as detected but not quantified. Half the RL is assumed to be between zero and the RL, which reflects the maximum

likelihood estimate of the mean or median of values uniformly distributed along the interval (i.e., 0 to the RL) (USEPA, 2009). Non-detects that are estimated ("J" qualifier flag) will respect the estimated value as a valid measurement (USEPA, 2009) for statistical purposes. For traditional statistical methods, simple substitution will be considered when the frequency of detection is greater than 85 percent (%) (USEPA, 2009) and/or the sample number is fewer than eight.

2.3.2 CENSOR ESTIMATION

Censor estimation techniques rely on modeling the underlying data distribution to quantitatively model or estimate values for nondetect measurements. These techniques attempt to fit a sample to a known distribution using a censored estimation method, such as the Kaplan-Meier (KM) estimator or the robust regression on order statistics (ROS) (USEPA, 2009) and generate a model-based estimate of statistical moments or imputed number, respectively. Parametric statistical calculations are then performed using these model-based estimates or imputations. Parametric and nonparametric statistical methods are discussed in more detail in Section 2.6. For traditional statistical methods, censor estimation techniques will be implemented when the sample number is sufficient to discern the underlying data distribution (e.g., normal, lognormal, gamma), the frequency of non-detects are between approximately 10% and 50%, and the sample number is eight or more.

In cases where more than one RL is used, the ROS will be preferred method. Instances where the data do not conform to a discernable data distribution nor fit the criteria set forth in this Section, nonparametric statistical methods will be used.

2.3.3 DOUBLE QUANTIFICATION RULE

In cases where the background data are 100% non-detects, the Double Quantification Rule (DQR) is appropriate. The DQR states that if two consecutive samples exceed the RL, then there is enough evidence to declare an SSI (USEPA, 2009).

2.4 SPATIO-TEMPORAL DATA DEPENDENCE

Environmental parameters and processes inherently influence the distribution, fate, and residence of constituents. These parameters and processes are oftentimes correlated in space and/or time, meaning sample data are not completely independent and exhibit some degree of spatial and/or temporal dependence, or correlation. Spatial and temporal EDA methods allow practitioners to evaluate spatial and/or temporal relationships, such as spatial distributions and temporal trends in constituents, over space and time. These methods are critical for: 1) visualizing data and further developing the CSM in terms of screening relationships between groundwater quality, geology, groundwater gradients, and seasonal trends; and 2) ensuring the sample data meet the statistical method assumptions listed under the CCR Rule.

This Section discusses spatial and temporal EDA approaches for detecting and assessing data dependence. Section 2.5 discusses methods for managing data dependence to ensure the sample data meet the statistical assumptions.

2.4.1 QUICK SPATIAL INTERPOLATION

Application: Quick spatial interpolation screens for:

- spatial anomalies, dependence, and extents of constituent concentrations in groundwater;
- spatial associations between constituent concentrations and groundwater elevation; and
- changes in spatial groundwater gradients and CCR Rule constituent distributions over time and any potential anomalous data that may warrant further investigation or sampling.

Selected methods: Selected methods include interpolation by natural neighbor, inverse distance weighted, splines (or other higher order polynomials), and/or nearest neighbor methods.

Interpolation is a generic term representing various methods used to generate maps, or spatial estimates of sampled data in unsampled locations. The quick interpolation methods listed are interpolators that do not make any assumptions regarding the distribution of the sampled data and require limited parameter input(s). More than one quick interpolation method may be selected to test the sensitivity of another quick interpolation method.

An adequate number and spacing of monitoring wells are necessary to map groundwater constituent concentrations. To facilitate meaningful mapping of groundwater constituents, monitoring wells assigned to each CCR monitoring system, in addition to geologically and hydrogeologically relevant FCPP monitoring wells not identified within the CCR monitoring systems, will be considered for quick spatial interpolation.

Quick interpolation maps of constituent concentrations and groundwater gradients will be integrated into the project CSM.

2.4.2 AUTOCORRELATION

Application: Autocorrelation is used to:

- model and quantify the degree of spatial and/or temporal correlation between sampled data;
- identify sampling redundancies in the monitoring well network (in space and time); and
- optimize sampling frequency and monitoring network performance to reduce sampling redundancies.

Selected methods: Selected methods include the variogram model and lag plot.

Data dependence will be screened using quick interpolation methods. Data dependence will be quantified and tested using autocorrelation methods.

Autocorrelation quantifies the ability for a measured property, or constituent, to relate to itself in space or time. This notion follows Tolber's First Law of Geography, which states that "everything is related to everything else, but near things are more related than distant things." If values for nearby samples (either in space or time) are similar, then there is some autocorrelation among them, and therefore, the values contain varying degrees of redundant information. Autocorrelation is a valuable data evaluation tool for quantifying the presence of spatial and temporal dependence in sampled data.

Within the scope of this SDAWP, standard methods to quantify autocorrelation include the variogram or lag plot (USEPA, 2009). A lag plot is a useful EDA tool to screen for non-random (e.g., autocorrelated) variation in a sampled data set. If a data set exhibits spatial or temporal autocorrelation a pattern will

appear in the lag plot.

The variogram model is useful for assessing sampling adequacy and autocorrelation. The variogram quantifies the ratio of dependent versus independent variation in the sampled data. This ratio is known as the nugget:sill ratio. If the nugget:sill ratio is less than 0.50, the data will be considered spatially or temporally dependent. A variogram model fits a range value to the sample data that represents the extent a sample parameter, or constituent, exhibits autocorrelation. The range can represent a distance value when modeling spatial data or a temporal frequency when modeling temporal data. The range value quantifies the distance or frequency over which a sampled property, or constituent, is considered autocorrelated. The range of autocorrelation can be useful for making informed data-driven decisions including how to best transform a spatial or temporal data set, and optimize sampling frequencies within the groundwater monitoring system(s) to ensure sample independence (Section 2.5). Therefore, optimizing sampling frequencies will minimize sampling redundancies (e.g., autocorrelation) and cost without jeopardizing sampling adequacy (40 CFR §257.94(d)(2)).

The variogram requires that the data meet the assumption of intrinsic stationary, which satisfies the following criteria: the data are stationary (no systematic change in the mean) and the variance depends only on sample separation increment, or separation distance between samples in space or time. Ideally, shorter separation increments will have higher autocorrelation whereas larger separation increments will have lower autocorrelation, which follows the principle of Tobler's First Law of Geography. The variogram also requires a sufficient number of sample data to adequately characterize autocorrelation.

Recommendations for reducing data dependence will include decreasing the sampling frequency for future samples and detrending or domaining the data prior to performing statistical comparison tests (Section 2.5).

2.4.3 TIME SERIES ANALYSIS

Application: Time series analysis is used to:

- screen for potential anomalous data that warrant further investigation;
- screen for temporal trends in constituent concentrations in each monitoring well; and
- test for significance of temporal trends, where identified.

Selected methods: Selected methods include time series plots and parametric and nonparametric trend analysis.

A time series is a sample data set ordered consecutively by sample date. Plotting constituent concentrations as a time series provides a very quick visual approach to screen monitoring well data for potential outliers and/or temporal trends. In this case, outliers will consist of visually identifying constituent concentrations that do not conform to the historical temporal variations characteristic to a given well, such as extremely high or low concentration values.

Long-term temporal trends exist when a constituent time series shows a discernable pattern of increase or decrease in constituent concentrations over time, thereby indicating that the sample mean is non-stationary over time. The significance and slope of these trends will be evaluated using the Mann-Kendall and the Theil-Sen tests to determine if the increase or decrease in constituent concentrations are significant ($p < 0.05$). The Mann-Kendall and the Theil-Sen tests make no assumptions regarding the data distribution. The Mann-Kendall test does not indicate the slope of the trend. The Theil-Sen test can be used in conjunction with the Mann-Kendall test to assess the magnitude of the slope of the trend.

Temporal trends in groundwater samples can be indicative of natural fluctuations in groundwater conditions and/or impact from anthropogenic activity independent of the CCR Unit operation. All temporal trends will be interpreted through the CSM to explore their origin. If trends are statistically and hydrogeologically justified, the data should be detrended (Section 2.5.1), or otherwise accounted for, when implementing a statistical method pursuant to 40 CFR §257.93. Historical data should be reviewed to determine if they are representative of current site-specific groundwater conditions. The presence of inconsistent trends among wells within the groundwater monitoring network might also suggest spatial heterogeneity in groundwater conditions; in such case(s) the adequacy of an interwell statistical comparison might need reconsideration (Section 3.0).

2.5 STATISTICAL INDEPENDENCE AND DATA DOMAINING

The statistical methods in 40 CFR §257.93 assume sampled data are stationary (statistical properties are constant in space and time), independent (exhibit no spatial or temporal relationships between individual samples) and consist of a single-sample population.

For the purpose of this SDAWP, a data set that exhibits a statistical mean that changes systematically in space or time is considered non-stationary (meaning the data exhibit a trend). This change can take the form of a linear or non-linear increase or decrease in a constituent concentration in space and/or over time. El Kadi (1995) provides a good overview of stationarity and non-stationarity in the context of groundwater statistics.

The presence of a trend will automatically infer two things:

1. The sample data are statistically dependent (Section 2.4) because the trend itself demonstrates that samples exhibit a distinct relationship in space or time; and
2. The sample data set possibly exhibits more than one statistical population.

In such cases, data detrending (Section 2.5.1) and/or data domaining (Section 2.5.2) methods will be considered.

Quick interpolation (Section 2.4.1), autocorrelation (Section 2.4.2), and/or time series analysis (Section 2.4.3) can assess data dependence and methods in Section 2.5.2 can assess the appropriateness for domaining data.

2.5.1 DATA DETRENDING

Application: Data detrending is used to:

- transform a statistically dependent sample data set into statistically independent sample data set.

Selected methods: regression modeling and adjusting the sampling frequency

Data will be considered statistically dependent if:

- there are statistically significant ($p < 0.05$) trends in constituent concentrations sampled over time in individual wells; and/or
- the variogram model exhibits a nugget: sill ratio less than 0.5.

If the data are considered statistically dependent, regression modeling is one option for generating a statistically independent data set. Regression modeling applicability is dependent on data evaluation

objectives, data adequacy, and working knowledge of the hydrogeological environment the sample data represent (e.g., the CSM).

Regression modeling can include linear, non-linear (e.g., seasonal), and spatial or temporal regression methods. In general, regression modeling requires identifying the type of trend present, fitting an adequate model to the trend, then performing statistical evaluations on the modeled trend residuals. The trend residuals will be tested for independence using correlation analysis. Goodness of fit criteria will be used to determine if the regression model adequately describes the trend.

If regression methods prove inadequate, alternative methods will be considered, such as data domaining (Section 2.5.2).

If the CSM suggests that temporal trends are intrinsic to the groundwater system and not attributed to a release from the CCR Unit, then it is arguable to decrease the sampling frequency to ensure the sample data are independent. If enough data are available, the variogram model can provide a data-driven minimum time lag necessary to sample independent data. The variogram model should be interpreted within context of groundwater velocity for reasonableness. The groundwater velocity can provide an estimate of the residence time of groundwater at a given location and the variogram time lag should be larger than this residence time. If too few sample data are available to generate a variogram model, the groundwater residence time can help infer an adequate sampling frequency.

2.5.2 HETEROGENEITY AND DATA DOMAINING

Application: Data domaining is used to:

- decompose a multi-population sample data set into respective single population sample data sets; and/or
- transform a non-stationary data set into a stationary data set.

Selected methods: box and whisker plots, Levene's test, ANOVA (and nonparametric equivalents), cluster analysis and principal component analysis.

Spatial and temporal heterogeneity are common within groundwater systems and indicates that the groundwater monitoring network is sampling more than one statistical population. Spatial and temporal heterogeneity means there are measurable differences in statistical characteristics among one sample population and the next, whether these populations derive from different locations within the monitoring well network or from different sample periods over time. These differences can be discrete or continuous, where the latter takes form through gradual trends (i.e., the data are non-stationary). It is important to recognize and test these differences to ensure the sample data are grouped properly to perform statistical comparisons in Sections 4.0 and 5.0.

When prepared by region or individual well, box and whisker plots (Section 2.7) can provide a quick visual assessment of spatial heterogeneity within the groundwater monitoring network. Time series plots (Section 2.4.3) can provide a quick visual assessment of temporal heterogeneity in groundwater quality data.

More advanced statistical comparisons are necessary to make defensible conclusions with regard to the presence or absence of spatial and temporal heterogeneity. Several statistical methods are available to test for statistically significant differences between sample populations in space (e.g., sampling different monitoring well locations) and time (e.g., sampling different periods over time). The Levene's test can determine the equality of variance between two-sample data sets with statistical confidence. If the equality of variance test holds, then a one-way ANOVA test can subsequently determine if there are

statistically significant ($\alpha = 0.05$) differences in constituent concentrations between two-sample data sets. The Kruskal-Wallis test is the nonparametric alternative to the parametric ANOVA test. More than one statistical comparison test may be considered. Spatial and temporal heterogeneity is constituent dependent, meaning the results of these tests can vary from one constituent to another.

If these statistical evaluations suggest that the monitoring well network is sampling equivalent statistical populations then it is possible to pool the sample data. This is recommended if more than one background well is present for a CCR Unit. Pooling sample data is advantageous because it increases the sample number, which in turn, increases the statistical power of the statistical test.

If the above statistical evaluations suggest more than one sample population is present then the data must be domained, or decomposed, into individual sample populations. More advanced statistical methods, including cluster analysis and/or principal component analysis, can provide data-driven groupings based on information redundancies, or underlying correlations observed in the sampled data. The notion behind cluster analysis and principal component analysis is to group data according to within-group similarities and between-group dissimilarities, where each group represents a unique statistical population. The sample data are then segregated and pooled into individual homoscedastic statistical populations. Statistical analyses are then performed using data groupings, or pooled data. In theory, underlying correlations derive from the environmental properties and processes from which the sample data originate, making these methods ideal for identifying different groundwater types, lithologies and or site geochemistry, for example. The CSM will help interpret data-driven groupings.

If more than one sample population is present in the groundwater monitoring network, it is necessary to determine if there is a representative background population to perform interwell statistical comparisons (Section 3.0) with the corresponding downgradient sample population. If a representative background population is not present then intrawell statistical comparisons (Section 3.0) might be appropriate in downgradient wells.

As alluded to in Section 2.4.3, a non-stationary timeseries data set might contain more than one statistical population. This is oftentimes the case when historical sample data are grouped with more recent sample data. In these cases, the historical sample data might not be representative of current site-specific groundwater conditions. Therefore, excluding the historical temporal samples might produce a stationary sample population representative of current groundwater conditions. The statistical comparison tests in this Section can help determine if there are statistically significant differences between historical and recent sample data.

2.6 DATA DISTRIBUTION ASSESSMENT

Pursuant to 40 CFR §257.93(g)(1), the statistical method used to evaluate groundwater data will be appropriate for the distribution of the constituent (e.g., sample population). Two hierarchies of statistical methods are present in 40 CFR §257.93, including parametric or nonparametric statistical methods. Parametric methods make specific assumptions regarding data distributions. If the sampled data do not fit a theoretical distribution (e.g., normal, lognormal, gamma, etc.) then nonparametric tests are appropriate. Nonparametric tests make no assumptions about the distribution of the sample data and, as such, are oftentimes referred to as distribution-free tests. In general, parametric tests are more powerful than nonparametric tests and will therefore be emphasized for establishing background constituent concentrations and performing statistical comparisons.

Application: Data distribution assessment is used to:

— visualize potential outliers;

— determine if the data follow an identifiable data distribution; and/or

— screen for potential heteroscedasticity.

Selected methods: Q-Q plots, box and whisker plots, summary statistics, histograms, in addition to the Shapiro-Wilk, Lilliefors, and gamma distribution tests.

The following EDA methods are considered "qualitative" and interpreted through visual assessment of graphic outputs:

— The Q-Q plot compares the sampled data set distribution against a defined distribution. For normal Q-Q plots the theoretical normal distribution is linear in the Q-Q plot. If the sampled data distribution is normal, then it will conform to a linear shape comparable to that of the theoretical distribution. The linear correlation coefficient represents the degree of linear correlation between the two distributions. Non-normal or bimodal distributions are apparent when inflection points are observed in the sampled data distribution. Inflections can be indicative of outliers (Section 2.7) or bimodal distributions (more than one sample population present in the data set). In some cases, the correlation coefficient may still be robust even though inflections are present. For this reason, more than one line of statistical evidence is necessary to determine if the sample data set exhibit normality and it is suggested to use at least one formal statistical test described below. Other distributions (lognormal, gamma) can be tested by constructing Q-Q plots based on the appropriate theoretical distribution and interpreted in the same way as above.

— Box plots are a quick tool to screen the location, spread, and shape of the data and underlying sample distribution. A box plot illustrates the 25th, 50th and 75th percentiles of the data in addition to potential outliers (Section 2.7). It is particularly useful to group data to plot multiple box plots to screen for potential heteroscedasticity.

— Histograms also provide a graphical summary of the distribution of a sample data set. The histogram shows equally sized data classes (or bins) on the x-axis and the number of samples (also known as counts) falling within each bin on the y-axis. The histogram is useful for visualizing the center, spread, skewness, and modality of the data. The histogram is also useful for screening outliers (Section 2.7) in the sampled data.

Summary statistics, goodness of fit tests, including the Shapiro-Wilk, Lilliefors, and gamma distribution tests, are numeric statistical tests that evaluate if the sample data distribution fits a predefined theoretical data distribution (e.g., normal, lognormal, or gamma). These tests will be performed at a 0.05 level of significance.

— Summary statistics will include calculating the statistical measures (e.g., mean, median, variance, skewness, and kurtosis), minimum and maximum values, and coefficient of variation. If the data exhibit a similar mean and median and little to no skewness then the data likely fit a normal distribution.

— The Shapiro-Wilk test will evaluate if the sampled data fit a normal or lognormal data distribution (ProUCL, 2013). This test is useful for data sets with less than or equal to 50 sample observations. The Shapiro-Wilk test can be applied to raw data to determine if data transformations might be necessary. In such cases, the Shapiro-Wilk test should subsequently be applied to transformed sampled data to test the effectiveness of the data transformation.

— The Lilliefors test is appropriate for larger data sets consisting of 50 or more samples and assesses if the data fit a normal or lognormal data distribution.

— The gamma distribution tests constitute the K-D and A-D tests (ProUCL, 2013). Most positively

skewed data follow a lognormal as well as a gamma distribution (ProUCL, 2013). In these cases, the use of a gamma distribution tends to yield more reliable and stable results and will therefore hold preference (ProUCL, 2013).

It is advisable that more than one line of statistical evidence, both graphic and numeric, be provided to defensibly discern the distribution of a sampled data set.

2.7 OUTLIER TESTS

Application: Test for statistically significant ($p < 0.05$) outliers.

Selected methods: Dixon or Rosner tests.

Outliers will be tested for significance ($p < 0.05$) using the Dixon's and Rosner's tests. These outlier tests assume the data are normally distributed in the absence of the potential outliers. Therefore, these tests will be performed on transformed data if the data do not exhibit a normal distribution in the presence of the potential outlier(s). More than one line of statistical evidence, such as Q-Q plots and histograms, will be necessary to confirm if a potential outlier should be discarded. The CSM will be incorporated into this decision making to provide reasoning for the abnormal value and to justify its exclusion from the statistical analysis, if appropriate.

3 INTERWELL VERSUS INTRAWELL COMPARISONS

The FCPP groundwater monitoring systems are designed to perform interwell statistical comparisons, except for intrawell statistical comparisons for select monitoring wells and constituents at the CWTP (Wood, 2019). Interwell comparisons are oftentimes referred to as "upgradient-to-downgradient comparisons" (USEPA, 2009) because they compare measurements sampled in background monitoring wells to measurements sampled in monitoring wells that reflect groundwater conditions downgradient of the CCR unit. Interwell comparisons perform poorly in cases where a constituent exhibits spatial and/or temporal heterogeneity such that the statistical mean and variance are not considered representative or constant across the groundwater monitoring network. In such cases, intrawell comparisons are an industry accepted and recommended alternative to interwell comparisons (USEPA, 2009).

An intrawell comparison compares constituent concentrations over time within a single well. For a given monitoring well, sample data that reflect baseline constituent concentrations are compared to sample data (sampled from the same well) to determine if there is a statistically significant increase in constituent concentrations relative to baseline concentrations. In this context, intrawell comparisons help determine if groundwater quality is deteriorating or holding constant at a given location over time. Intrawell comparisons are less useful when baseline constituent concentrations are constructed from only a few sample points and/or groundwater samples are collected post CCR installation, which means that the data are potentially impacted by CCR activity. When faced with these disadvantages, groundwater deterioration is evaluated by testing for statically significant positive trends in constituent concentrations sampled within the well over time.

Intrawell and interwell selections are data-driven and will be constituent dependent, meaning an intrawell comparison might be appropriate for one constituent but interwell comparisons are appropriate for remaining constituents, for example.

4 DETECTION MONITORING

The CCR Rule states that by October 17, 2017, a minimum of eight independent samples must be collected to initiate detection groundwater monitoring as required by 40 CFR §257.94(b). This Section discusses ensuing statistical tests to assess if there is an SSI over background levels.

The CSM will be iteratively updated with results from the data evaluations detailed in this SDAWP.

4.1 DATA EVALUATION OBJECTIVES

The objective of a detection monitoring program is to evaluate each of the CCR Rule Appendix III constituents (Section 4.2) and to determine, pursuant to 40 CFR §257.93(h), if there is an SSI in constituent concentrations downgradient of the unit compared to background levels.

4.2 CONSTITUENTS OF CONCERN

The CCR Rule Appendix III constituents are listed in Section 2.2. Statistical evaluations will be performed independently for each constituent.

4.3 BACKGROUND COMPARISON TESTS

The selection of a defensible statistical test is a data-driven process. Therefore, the selection and declaration of any statistical method(s) herein, pursuant to 40 CFR §257.93, is subject to change as: 1) data characteristics become known through the EDA process and 2) future data present modification(s) to precursor EDA results and/or other known information contained within the CSM.

Background wells will be used to evaluate the quality of water not affected by a CCR unit. Background wells are adequate if they sample groundwater conditions representative of those beneath and downgradient of the CCR unit (assuming it is not leaking). Section 3.0 discusses alternative industry standard procedures for performing groundwater statistical evaluations when background proves inadequate.

4.3.1 PREDICTION LIMITS

Within the scope of this SDAWP, upper prediction limits (UPLs) will be calculated to establish background concentration threshold values except for pH, which will also require the calculation of a lower prediction limit (LPL). The UPL belongs to a statistical class of methods called statistical intervals (USEPA, 2009). Intervals are a statistical measure that represent a finite probable range (upper and lower limit) in which a future sample statistic or population parameter is expected to occur (USEPA, 2009). A future sample statistic can constitute a single-sample value or a statistical parameter (e.g., mean). For most constituents, the upper interval limit is of interest. A level of confidence is declared based on an error rate (α), which represents the likelihood that the interval does not contain the future sample statistic or population parameter (USEPA, 2009). Measurements falling outside of the interval limit are considered to be significantly different than background at a prescribed level of statistical

confidence.

The prediction limit method assumes the background and downgradient sample populations are identical, meaning there is a high probability (1-α) that the prediction limit will contain the future sample value(s) or statistical parameter(s) if the CCR unit is not impacting groundwater. The project CSM (Section 1.0) and EDA (Section 2.0) will provide lines of evidence and guidance as to whether or not designated background and downgradient compliance wells are sampling the same statistical population. Future samples or statistical parameters are collected from downgradient monitoring wells and compared to the constituent UPL established using samples collected from background monitoring wells.

The probability of a future sample to exceed a prediction limit is based on background concentration values but also the design of the monitoring well network (Section 1.0), number of future samples that will be compared to the background prediction limit, and how these comparisons are performed. The Unified Guidance recommends a retesting strategy when using the UPL method to maintain a low false positive occurrence (falsely identifying an SSI) while providing acceptable statistical power for identifying an exceedance (Section 4.4) (USEPA, 2009).

Resampling strategies are in place to ensure an SSI is not falsely declared on account of cumulative random statistical error in future samples. Resampling strategies are applicable for parametric, nonparametric, intrawell, and interwell UPL comparisons. Resampling strategies typically follow a "1 of m" sampling design, where m is the number of resamples necessary to verify a potential SSI. Resampling strategies depend on several criteria, such as the size of the background data set, sampling frequency, interwell versus intrawell comparisons, and the number of active monitoring wells, among other considerations. Only when the analytical data indicate a sample is in exceedance of its UPL is resampling initiated. For a 1 of 2 resampling strategy, as an example, the initial exceedance and a second statistically independent sample must be in exceedance of the UPL to declare an SSI. If the second sample is not in exceedance, then there is insufficient evidence to declare an SSI at that time and the 1 of 2 count is reset to 0. If there is no exceedance in the analytical results, then resampling is not necessary.

Resampling strategies are established prior to performing statistical compliance testing and will reflect in the parametric calculation of the UPL through an $\varkappa$-multiplier (USEPA, 2009). The most appropriate resampling strategy will be selected in consideration of the expected statistical power and sitewide false positive rate (SWFPR) (Section 4.4). The overall defensibility of a resampling strategy decreases when the sample data are statistically dependent (i.e., sampled so close in time that they are correlated), which is usually the case when sampling at a frequency higher than quarterly. The resampling strategy is generally unnecessary when the observed concentrations in downgradient wells are distinctly higher than concentrations observed in background wells (e.g., all samples are order(s) of magnitude higher); in this case, background might be inadequate or a release from the evaluated unit has occurred.

For parametric background data sets exhibiting a linear temporal trend, it is possible to calculate the parametric UPL and LPL around the trend (Section 2.5.1). This SDAWP adapts Equation 10-13 in the ProUCL Technical Guide to calculate the UPL and LPL around a trend (USEPA, 2013). The data must meet the statistical assumptions for the ordinary least squares regression method and exhibit a nondetect frequency of less than 15%.

Nonparametric UPLs will be appropriate for constituents with at least a 50%, but less than 100%, nondetect frequency and/or the data do not exhibit an identifiable distribution. For nonparametric UPLs the upper limit generally reflects the highest or second-highest constituent concentration. It is beneficial that the background data set has a sufficient number of samples to achieve an acceptable

SWFPR. A minimum of eight samples is likely insufficient and, therefore, pooling background might be appropriate and should be explored using the Kruskal-Wallis method (Section 2.5.2). Choosing a 1 of m retesting strategy follows the same logic as presented above for the parametric UPL.

The DQR will be appropriate for constituents exhibiting 100% non-detection frequencies (Section 2.3.3).

4.3.2 ALTERNATIVES TO PREDICTION LIMITS

The declaration of the UPL is pending review of available data. If available data do not lend itself to using the UPL, an appropriate statistical test from the remaining tests listed in 257.93(f) will be chosen.

4.4 PERFORMANCE STANDARDS

There are performance standards to help ensure that the statistical tests perform adequately to identify the occurrence of a legitimate CCR unit leakage. These performance standards can provide measures of sampling adequacy but also sensitivity of the statistical tests to detect changes in groundwater quality. Within the scope of this SDAWP, these standards consider statistical power, site-wide false positive errors, and retesting strategies.

- **Statistical Power**: The statistical power is the ability for a statistical comparison test to identify a legitimate leakage from a CCR unit. The statistical power will improve as the sample number increases and varies based on the type of statistical method used. For each statistical method, multiple types of statistical comparisons are possible as part of the SDAWP (e.g., parametric, nonparametric, intrawell, or interwell). Therefore, statistical power will reflect the type of statistical tests and will follow method-specific recommendations put forth in the USEPA Unified Guidance (2009).
- **Site-Wide False Positive Rate**: The SWFPR should be considered in balance with statistical power. The SWFPR reflects the risk that a test will falsely indicate there is leakage from a CCR unit (USEPA, 2009). This risk is encountered in each comparison test that is performed as part of the detection monitoring statistical program. Because the number of comparison tests may be large over the lifespan of a detection monitoring program (e.g., due to repeated sampling) the likelihood of at least one statistical test indicating a false positive is realistic. This is known as the multiple comparisons problem (USEPA, 2009). The multiple comparison problem can be addressed using retesting.
- **Retesting**: Retesting is proposed to achieve a realistic balance between a low SWFPR and maintaining adequate statistical power to detect leakage from a CCR unit. Resampling is a check for transient, marginal increases over a background threshold level that are not really significant but are to be expected as a result of multiple comparisons. In general, retesting overcomes the multiple comparison problem by constructing a set of decision rules that are applied to UPL strategies. The Unified Guidance provides several approaches for establishing decision rules (USEPA, 2009). Retesting schemes for medians and means provide more robust statistical properties (e.g., power and SWFPR) in comparison to other retesting methods and are ideal for detection monitoring programs where multiple sample rounds are anticipated. The chosen approach will affect the choice of $\varkappa$-multiplier; therefore, the retesting approach needs to be selected prior to calculating the UPL.

4.5 SSI DECLARATION – DETECTION MONITORING

If the detection monitoring statistical evaluation indicates there is an SSI over background for one or more constituents, an investigation should ensue to determine if a release from the CCR unit is the cause of the SSI(s). If the data and information within the CSM demonstrate: 1) a release from an alternative source; 2) natural spatial or temporal heterogeneity, and/or 3) sampling or analytical error is the source to the declared SSI, then this demonstration must be made in writing and certified by a qualified professional engineer within 90 days of completing the statistical evaluation. Alternative source demonstrations will rely on available data in addition to information contained within the CSM.

If this demonstration cannot be made within 90 days of the SSI declaration, then the site moves into assessment monitoring (Section 5.0).

5 ASSESSMENT MONITORING

The CCR Rule states that a CCR unit must begin assessment monitoring 90 days following a declaration of an SSI over background if during this time there is no supporting evidence presented demonstrating that the SSI results from an alternative source.

Within 90 days of the SSI declaration, and **annually** thereafter, the owner or operator must sample the unit's groundwater monitoring network for Appendix IV constituents, pursuant to §257.95(b). Within 90 days of obtaining sample results, and **semiannually** thereafter, the owner or operator must sample the unit's groundwater monitoring network for all Appendix III constituents and the Appendix IV constituents whose concentrations were detectable during the initial assessment monitoring sample event.

Pursuant to 40 CFR §257.95(h), groundwater protection standards (GWPS) must be established for detectable Appendix IV constituents. For each constituent, the selected GWPS is the higher of the site-specific background level (i.e., BTV), the USEPA's promulgated Drinking Water Maximum Contaminant Level (MCL), or a risk-based alternative GWPS identified in the CCR Rule for constituents without an MCL (i.e., cobalt, lead, lithium, and molybdenum).

This Section discusses statistical tests that will be used to assess if Appendix IV groundwater constituents show an SSL over respective GWPSs.

5.1 DATA EVALUATION OBJECTIVES

The objective of an assessment monitoring program is to evaluate if an Appendix IV constituent downgradient of the CCR unit exhibits an SSL over the respective GWPS, pursuant to 40 CFR §257.95(g).

5.2 CONSTITUENTS OF CONCERN

The CCR Rule Appendix IV constituents are listed in Section 2.2. Statistical evaluations will be performed independently for each constituent.

5.3 GWPS COMPARISON TESTS

The selection of a defensible statistical test is a data-driven process. Therefore, the selection and declaration of any statistical method(s) herein is subject to change as: 1) data characteristics become known through the EDA process and 2) new data present modification(s) to precursor EDA results and/or other known information contained within the CSM.

There are two approaches to evaluating whether groundwater data comply with GWPSs. The first is a single-sample statistical comparison, where downgradient sample data are compared to a predefined and fixed value (e.g., the MCL). The second is a two-sample statistical comparison test, where statistical properties of the downgradient sample population are compared to statistical properties of the site-specific background sample population. The two-sample statistical comparison test is only applicable when background is higher than the MCL or alternative risk-based GWPS.

The statistical methods listed in 40 CFR §257.93(f) are adequate for two-sample statistical comparisons, however, are inadequate to compare downgradient sample data to a fixed threshold value (single-sample comparisons). The following sections recommend statistical methods that are appropriate for both single-sample and two-sample statistical comparisons and are hereby incorporated based on 40 CFR §257.93(f)(5) which states that "Another statistical test method that meets the performance standards of paragraph (g) of this Section" may be used.

5.3.1 SINGLE-SAMPLE COMPARISON TESTS

The single-sample approach compares the downgradient well constituent concentrations to a fixed value. In this case, the fixed value will be the MCL, an alternative risk-based GWPS or, if higher, a site-specific background level. The statistical hypothesis structure for a single-sample comparison is reversible, unlike a two-sample statistical comparison, such that the same fixed protection standard can be used for assessment monitoring and later for corrective action testing, if necessary. When the MCL or alternative risk-based GWPS serves as the constituent GWPS, the Unified Guidance (USEPA, 2009) recommends calculating confidence intervals around the downgradient data set's mean or median (pending definition of the data distribution) and comparing the lower confidence limit of this interval to the constituent GWPS; if the lower confidence limit exceeds the constituent GWPS there is enough statistical evidence to declare an SSL. The confidence interval calculation requires a t value at a specified confidence (e.g., 1-α, where $\alpha = 0.05$); this value should be chosen to achieve a low false positive rate while achieving adequate statistical power. The confidence interval calculation can account for a temporal trend, similar to the UPL calculation with a trend. The confidence interval will be calculated in accordance with EDA procedures (Section 2.0) and recommendations put forth in the USEPA's Unified Guidance.

The Unified Guidance recommends calculating the upper tolerance limit (UTL) to represent the constituent GWPS when the site-specific background level is higher than the MCL or alternative risk-based GWPS. To determine if the UTL is higher than the MCL or alternative risk-based GWPS, the former will be calculated for each constituent. The UTL is designed to be "a reasonable maximum on the likely range of background concentrations" (USEPA, 2009) and, similar to the MCL or alternative risk-based GWPS, the UTL can accommodate a statistical hypothesis structure that is reversible (i.e., is appropriate for both compliance and corrective action testing, if necessary). In general, the UTL represents a sample concentration range, or coverage, which contains a predefined proportion of the underlying statistical population. Most often this predefined coverage is equal to 95% (e.g., the 95% UTL). The tolerance limit calculation is very similar to the prediction limit calculation but the tolerance limit multiplier ($\boldsymbol{\tau}$) is based on the selected coverage (recommended coverage $\gamma = 95\%$) and selected confidence (recommended confidence is 95%, or $\alpha = 0.05$). Since the UTL is treated interchangeably to the MCL or alternative risk-based GWPS in this case, the statistical comparison is performed similarly using the lower confidence limits of the downgradient sample data; if the lower confidence limit of the downgradient sample data exceeds the site-specific UTL there is enough statistical evidence to declare an SSL and possibly justify corrective action. The tolerance limits will be calculated in accordance with the EDA procedures (Section 2.0) and recommendations put forth in the USEPA's Unified Guidance.

5.3.2 TWO-SAMPLE COMPARISON TESTS

The two-sample statistical comparison uses site-specific background levels to establish a constituent's GWPS, which may be higher than either the MCL or alternative risk-based GWPS. For this approach, the prediction limit method remains adequate as it did for detection monitoring. This is, in part, because

the UPL follows a single statistical hypothesis structure common to detection monitoring (USEPA, 2009). In this specific case, however, the Unified Guidance recommends constructing the upper prediction limit of a mean or median (pending definition of the data distribution) then comparing the mean or median of the downgradient data set to this upper limit. The UPL calculation can account for a temporal trend, if necessary (Section 2.5.1). If the mean or median is in exceedance, then there is enough statistical evidence to declare an SSL and possibly justify corrective action. The prediction limits around the mean or median will include a retesting strategy (Section 4.3.1 and Section 4.4) and be calculated in accordance with the EDA procedures (Section 2.0) and recommendations put forth in the USEPA's Unified Guidance.

5.4 PERFORMANCE STANDARDS

The performance standards in Section 4.4 are applicable to assessment monitoring and will follow method-specific recommendations put forth in the USEPA's Unified Guidance.

5.5 SSL DECLARATION – ASSESSMENT MONITORING

Pursuant to 40 CFR §257.95(f), assessment monitoring will continue if there are Appendix III or Appendix IV constituent concentrations above background levels but there is insufficient evidence to declare a SSL over the GWPSs established under 40 CFR §257.95(h).

If assessment monitoring demonstrates an SSL in Appendix IV constituent concentration over the respective GWPS, an investigation should ensue to determine if a release from the CCR unit is the cause of the SSL(s) (See Section 4.5) and the owner or operator must follow criteria set forth under 40 CFR §257.95(g).

5.6 RETURN TO DETECTION MONITORING

If assessment monitoring demonstrates that all Appendix III and Appendix IV constituents are equal to or below their respective background levels for two consecutive sampling events, then the monitoring program can return to detection monitoring.

6 CORRECTIVE ACTION

Within 90 days of declaring a statistically significant increase of an Appendix IV constituent over the respective GWPS because of a leaking CCR Unit, or noticing a leak from the CCR Unit, the owner or operator of the CCR unit must initiate an Assessment of Corrective Measures, per 40 CFR §257.96 (an extension of 60 days is allowable if warranted). The results of the Assessment of Corrective Measures must be discussed in a public meeting at least 30 days prior to selection of a remedy. Selection of a remedy must consider criteria set forth under 40 CFR §257.97, including the attainment of GWPSs (40 CFR §257.95(h)).

Remedy implementation (40 CFR §257. 98) begins within 90 days of remedy selection. The groundwater monitoring program continues during corrective action implementation to help, in part, determine remedy effectiveness. Pursuant to 40 CFR §257.98(a)(1), the corrective action groundwater monitoring program must:

1. meet requirements of an assessment monitoring program (40 CFR §257.95) (Section 5.0),
2. document the effectiveness of the selected remedy, and
3. demonstrate compliance with GWPSs (Section 5.3).

Pursuant to 40 CFR §257.98(c), a remedy is complete when Appendix IV constituent concentrations are complaint with GWPSs within the spatial extent of the contamination plume for a period of three consecutive years using the statistical procedures and performance standards in 40 CFR §257.93(f) and (g).

Section 5.3.1 discusses the singe-sample comparison test for assessing Appendix IV constituents, which is a reversible test; meaning the same fixed protection standard (i.e., GWPS) can be used for assessment monitoring and corrective action. In either event (assessment monitoring or corrective action), the confidence interval is calculated for downgradient compliance wells and compared to the respective fixed protection standard. For assessment monitoring, if the lower confidence limit of the compliance well data (i.e., lower bound of the confidence interval) exceeds the fixed protection standard, an SSL declaration is made. For corrective action, if the upper confidence limit (i.e., upper bound of the confidence interval) of the compliance well data falls below the fixed protection standard, the remedy is considered effective and complete. It is important to remember the confidence interval reflects the central tendency of the compliance well data (e.g., mean or median value) and, therefore, a single-sample event will likely not transition the CCR unit in or out of compliance. As such, the CCR owner or operator should expect several rounds of sampling to decipher the adequacy of remedy implementation and its overall effectiveness.

7 CLOSURE AND POST-CLOSURE CARE

Closure of CCR units is generally separate from the groundwater monitoring program but there are requirements in the CCR Rule that involve statistically evaluating groundwater data to support assessing whether closure is complete. Requirements generally vary by the closure approach the owner/operator selects for a particular unit. Closure of CCR units can be conducted by either leaving CCR waste in place (i.e., closure in place) or by removing the CCR waste placed in the unit (i.e., closure by removal). Post-closure care applies to units that close by leaving CCR waste in place.

Pursuant to 40 CFR §257.102(c), closure by removal is when the owner or operator removes and decontaminates all areas affected by releases from the CCR unit. Closure is considered complete when CCR has been removed from all affected areas and groundwater monitoring concentrations comply with GWPSs for Appendix IV constituents.. The Federal Register (2015) indicates that in evaluating the completeness of closure by removal, all Appendix IV concentrations should fall below their respective GWPSs for two consecutive sampling events using the statistical procedures in 40 CFR §257.95(g). The statistical methods should follow those in Section 5.3 to determine whether groundwater complies with GWPSs. If a CCR unit is in detection monitoring at the time closure by removal occurs, the evaluation of completeness for closure by removal involves the development of GWPSs for the subject unit as well as assessment of whether the groundwater complies with GWPSs A total of eight (8) sampling events are generally required for the statistical analysis outlined in this report but the number of independent sampling events necessary for evaluation is data dependent and must be assessed with collected data.

Closure by leaving CCR in place is subject to post-closure requirements put forth under 40 CFR §257.104. This includes maintaining the groundwater monitoring system and monitoring groundwater (40 CFR §257.104(b)(3)). The post-closure period spans 30 years (40 CFR §257.104(c)) unless the CCR unit is under assessment monitoring at the 30-year mark, in which case assessment monitoring will continue until the CCR unit returns to detection monitoring pursuant to 40 CFR §257.95 (Section 5.0). If the CCR unit is in corrective action, the CCR unit will need to achieve corrective action completion status (see Section 6.0) and reach detection monitoring status as put forth in this Section. If the CCR unit is in detection monitoring at the end of 30 years, the CCR unit owner or operator can cease groundwater monitoring.

8 STATISTICAL CONSIDERATIONS FOR UNSATURATED ZONES

For CCR units where the uppermost hydrostratigraphic unit is dry, such as the RWP and DFADA, the groundwater monitoring system is designed to detect a release from the CCR unit, however, the monitoring well screened intervals reside within an unsaturated zone. In this situation, the groundwater monitoring program expects the monitoring wells to either be dry or to contain a minimal amount of water (insufficient for sampling). CCR units that produce inadequate or insufficient groundwater analytical data to perform the statistical evaluations put forth in this SDAWP lend themselves to alternative evaluations to assess if the CCR unit is leaking.

One criterion for indicating a potential leak at the RWP or the DFADA include the measurement of saturated thickness in a given downgradient well that is distinguishable from condensate buildup in the monitoring well(s). If this criterion is met, then the following steps will ensue to help determine if the CCR unit is leaking:

1. Monitor the saturated thickness within the downgradient well on a monthly basis to evaluate if the saturated thickness stays the same or increases over time.
2. If sufficient groundwater is present in a given well:
   a. Collect a groundwater sample and compare the Appendix III analytical concentrations to their respective and established BTVs.
   b. If there is a sample exceedance, execute the resampling strategy (Section 4.3.1) set forth for each respective Appendix III constituent using a quarterly sampling frequency.
3. Reference the CSM to:
   a. Investigate if local climatic regimes could have caused the previously-dry hydrostratigraphic unit beneath the CCR unit to become saturated;
   b. Assess the observed groundwater elevations beneath the CCR unit to evaluate if groundwater mounding indicative of a release is occurring; and
   c. Review the Site's operation and maintenance history to identify reasonable cause for a leak or alternative source.

If the resampling strategy in step 2(b) above confirms there is an SSI over background, then the monitoring program will proceed according to the steps described in Section 4.5. If there is insufficient evidence to declare an SSI over background but there are lines of evidence from the above preliminary evaluation(s) to indicate that the CCR unit might be leaking, then professional judgement will determine if the monitoring program will continue in detection monitoring or proceed to either an ASD or assessment monitoring program, per 40 CFR §257.94(e).

9 RECOMMENDATIONS FOR FUTURE EVALUATIONS

The CCR Rule does not declare criteria for updating background values over time. The minimum sampling criteria put forth by the CCR Rule likely does not capture the range of intrinsic temporal variation in constituent concentrations typical for a dynamic groundwater system. Moreover, larger sample numbers will increase the statistical power of the subsequent statistical tests.

Consequently, background limits should be updated periodically (e.g., every two years) until the sample data set is representative of intrinsic temporal variations in groundwater conditions and the sample number produces an adequate statistical power.

To update background, it is appropriate to compare the new background data to existing background data to ensure the two data sets reflect the same sample population; statistical methods listed in Section 2.5.2 are sufficient for performing this assessment. If the statistical comparison tests do not indicate significant differences, then the background data can be pooled. If statistically significant differences are present between two-sample sets, the data should be reviewed to determine the source of the difference and the sample set that is most representative of current groundwater conditions should hold precedence.

The exception is for background limits that are calculated around a trend line. In these cases, background limits will need updating after every sampling event.

10 SOFTWARE

EDA and detection monitoring statistical evaluations will be performed using ProUCL. ProUCL is a public domain software platform supported by USEPA.

Visual Sampling Plan (VSP) is public domain software supported by the U.S. Department of Energy and Pacific Northwest National Laboratory. This software is useful for assessing data dependence (Section 2.4) and performing sampling optimization.

Other public domain software packages, including R and Spatial Analysis in Macroecology, are defensible and transparent spatial regression and data detrending (Section 2.5.1) software platforms. These software platforms will supplement ProUCL and VSP, as necessary.

Isatis (Geovariances, France) is a well-established geostatistical software platform. This software will be used to validate variogram models and spatial interpolation methods (Section 2.4), as necessary.

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— Wood, 2022b. *Annual Groundwater Monitoring and Corrective Action Report for 2021.* Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Four Corners Power Plant, Fruitland, New Mexico. Report dated January 31, 2022.

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TABLES

Table 1-1
Description of Coal Combustion Residual Units

CCR Unit	Location	Function	Operation	Size/Construction	History
Upper Retention Sump (URS)	*Plant Area* NW1/4 of Section 36, T29N, R16W	*Single CCR unit* . Impoundment. Surge pond for FGD system.	FGD system discharge is discharged into the sump via 10 plus controlled/monitored lines. Pond contents are recirculated back into the FGD process via a pump chamber located on the south end of the pond. Solids are periodically removed from the sump.	- 1.07 acres in areal extent - Soil-cement liner on bottom and inside slopes	Placed in service around 1983. Discharges to the unit ceased as of December 10, 2018 and were thereafter directed to a new concrete tank (i.e., the Upper Retention Tank) that is located within the former footprint of the URS and serves the function of the former unit. Closure activities included removal of CCR and associated impacted materials from the URS with placement in the DFADA prior to backfilling the area with clean fill.
Combined Waste Treatment Pond (CWTP)	*East of Plant, Adjacent to Morgan Lake* SE1/4 of Section 25, T29N, R16W	*Single CCR Unit* . Impoundment. Detention pond used for NPDES treatment; settling and stabilization basin for ash-impacted and other Plant wastewater flows prior to discharge to Morgan Lake in accordance with an NPDES permit.	The primary source of water to the CWTP is from hydrobins which separate transport water from bottom ash generated in plant Units 4 and 5. Seven earthen basins in the western edge of the CWTP promote sediment settling prior to the water decanting into the main portion of the CWTP and then overflowing into the cooling water discharge canal at the northeast corner of the pond.	- 13.4 acres in areal extent	Constructed in 1978. Discharges to the unit ceased as of November 23, 2020 and were thereafter directed to a new concrete tank (i.e., the Bottom Ash Sluice Water Recycle Tank) that is located northeast of the coal storage area.
Lined Ash Impoundment (LAI)	*Disposal Area* E1/2 of Section 34, T29N, R16W	*Part of a CCR multiunit with the LDWP* that receives fly ash, flue gas desulfurization (FGD) waste and associated residuals as a slurry from the plant.	Waste is discharged into the pond in the northeast portion of the pond. Decanted flow discharges via a vertical drop inlet structure and through a toe drain into the LDWP.	- 126.8 acres in areal extent (high water line) - 60 mil HDPE liner - 5,364 acre-ft design capacity - 5,275.2 ft AMSL maximum working level	Constructed on top of closed Ash Ponds 4 and 5 and placed in service in 2004. Discharges to the unit ceased as of April 10, 2021 and were thereafter blended with dry fly ash and placed in the DFADA.
Lined Decant Water Pond (LDWP)	*Disposal Area* E1/2 of Section 34, T29N, R16W	*Part of a CCR multiunit with the LAI* that receives decanted water from the LAI. Impoundment.	Decanted water is discharged into the pond from the LAI via gravity; the water is pumped from the LDWP back to the plant for reuse in operations.	- 45 acres in areal extent - Two 60 mil HDPE liners separated by a leak detection layer - 435 acre-ft design capacity - 5,213.2 ft AMSL maximum working level	Constructed on top of closed Ash Pond 3 and placed in service in 2004. Notice of intent to close provided on April 10, 2021.
Dry Fly Ash Disposal Area (DFADA)	*Disposal Area* SE1/4 of Section 34, T29N, R16W	*Single CCR unit* . Landfill. Disposal of dry fly ash, bottom ash, FGD (blended with dry fly ash), and construction debris.	The DFADA is filled in general accordance with a stacking plan. Leachate generated from the DFADA cells is pumped into trucks and used for dust control.	- 4 conjoined cells (DFADA 1, 2, 3 and 4) with an areal extent of 137.7 acres total - 8,028 acre-ft design capacity - DFADA 1: compacted clay overlain by 60 mil HDPE liner and drainage layer - DFADA 2, 3 and 4: geosynthetic clay liner overlain by 60 mil HDPE liner and drainage layer - Leachate collection system drains each DFADA cell	Constructed in 2007 (DFADA 1), 2012 (DFADA 2), 2014 (DFADA 3) and 2021 (DFADA 4).
Return Water Pond (RWP)	*Plant Area* NW1/4 of Section 36, T29N, R16W	*Single CCR unit.* Lined impoundment for the temporary storage of FGD system waste, drain down from the LAI, treated sewage wastewater flow, and water pumped from the site seepage collection system.	The RWP consists of two cells; FGD system waste generated at the plant can be discharged into an FGD cell while all other liquids are discharged into a liquid cell. A spillway between the two cells allows liquid in the FGD system waste to decant into the liquid cell. Liquids from the liquid cell are pumped back to the plant for reuse in plant operations.	- 5.1 acres in areal extent - Composite liner system and associated LCRS comprised of a primary 60 mil HDPE liner, a geosynthetic drainage layer, a secondary 60 mil HDPE liner, and an underlying geosynthetic clay liner - 38.6 acre-ft design capacity - 5379 ft AMSL maximum working level	Constructed in 2019 and placed into service November 2020.

Abbreviations:

AMSL - above mean sea level
CCR - Coal combustion residuals
CWTP - Combined Waste Treatment Pond
DFADA - Dry Fly Ash Disposal Area
FGD - flue gas desulfurization
ft - feet
HDPE - high density polyethylene
LAI - Lined Ash Impoundment
LCRS - leak collection and removal system
LDWP - Lined Decant Water Pond
NPDES - National Pollutant Discharge Elimination System
RWP - Return Water Pond
URS - Upper Retention Sump

Table 1-2
CCR Groundwater Monitoring System Summary

Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
MW-12R1	DFADA	Background	Lewis Shale	4/10/2018	40	5,270.12	5,268.23	22	32	10	5,246.20	5,236.20	5,228.23
MW-55R	DFADA	Background	Lewis Shale	9/13/2015	95	5,243.96	5,241.36	73	93	20	5,168.46	5,148.46	5,146.36
MW-10	DFADA	Downgradient	Lewis Shale	3/12/1987	35	5,150.71	5,149.65	13	33	20	5,136.65	5,116.65	5,114.65
MW-13	DFADA	Downgradient	Lewis Shale	8/31/1987	60	5,150.75	5,149.52	35	55	20	5,114.62	5,094.62	5,089.52
MW-44	DFADA	Downgradient	Lewis Shale	3/28/2012	40	5,146.89	5,145.15	14	24	10	5,131.65	5,121.65	5,105.15
MW-48	DFADA	Downgradient	Lewis Shale	5/14/2013	60	5,165.96	5,163.43	35	60	25	5,128.43	5,103.43	5,103.43
MW-43	Multiunit 1	Background	Lewis Shale	3/24/2012	60	5,271.58	5,269.42	16	26	10	5,253.42	5,243.42	5,209.42
MW-49A	Multiunit 1	Background	Lewis Shale	5/18/2013	68	5,288.62[b]	5,285.29[b]	50	65	15	5,231.38	5,216.38	5,213.38
MW-50A	Multiunit 1	Background	Lewis Shale	5/7/2013	63	5,335.67	5,333.20	28	43	15	5,305.20	5,290.20	5,270.20
MW-51	Multiunit 1	Background	Lewis Shale	4/28/2013	80	5,288.14	5,285.14	20	30	10	5,265.14	5,255.14	5,205.14
MW-74	Multiunit 1	Background	Lewis Shale	1/18/2017	40	5,219.09	5,216.70	8	18	10	5,208.60	5,198.60	5,176.70
MW-07	Multiunit 1	Downgradient	Lewis Shale	3/11/1987[a]	60	5,149.32	5,148.29	15	35	20	5,133.59	5,113.59	5,088.29
MW-08	Multiunit 1	Downgradient	Lewis Shale	3/11/1987[a]	74	5,122.56	5,120.85	28	48	20	5,093.15	5,073.15	5,046.85
MW-40R	Multiunit 1	Downgradient	Lewis Shale	9/17/2015	25	5,137.43	5,134.83	14	24	10	5,120.53	5,110.53	5,109.83
MW-61	Multiunit 1	Downgradient	Lewis Shale	9/16/2015	35	5,129.19	5,126.59	24	34	10	5,102.39	5,092.39	5,091.59
MW-75	Multiunit 1	Downgradient	Lewis Shale	3/15/2017	41	5,126.80	5,124.80	29	39	10	5,095.80	5,085.80	5,083.80
MW-76	Multiunit 1	Downgradient	Lewis Shale	3/16/2017	33	5,116.23	5,114.30	12	27	15	5,102.50	5,087.50	5,081.30
MW-87	Multiunit 1	Downgradient	Lewis Shale	11/28/2018	50	5,076.53	5,074.29	15	45	30	5,059.29	5,029.29	5,024.29
MW-62	CWTP	Downgradient	Pictured Cliffs Sandstone	9/28/2015	20	5,341.87	5,339.37	10	20	10	5,329.37	5,319.37	5,319.37
MW-63	CWTP	Downgradient	Pictured Cliffs Sandstone	9/25/2015	20	5,337.02	5,337.02	9	19	10	5,328.02	5,318.02	5,317.02
MW-64	CWTP	Downgradient	Pictured Cliffs Sandstone	9/26/2015	25	5,337.66	5,337.66	10	20	10	5,327.66	5,317.66	5,312.66
MW-65	CWTP	Downgradient	Pictured Cliffs Sandstone	9/27/2015	20	5,339.74	5,337.24	8	18	10	5,329.24	5,319.24	5,317.24
MW-66	URS	Downgradient	Pictured Cliffs Sandstone	9/27/2015	33	5,344.69	5,344.70	15	25	10	5,329.70	5,319.70	5,311.70
MW-67	URS	Downgradient	Pictured Cliffs Sandstone	9/11/2015	31	5,352.76[b]	5,353.80[b]	20	30	10	5,334.42	5,324.42	5,323.02
MW-68	URS	Downgradient	Pictured Cliffs Sandstone	9/10/2015	30	5,353.58	5,353.95	19	29	10	5,334.95	5,324.95	5,323.95
MW-69	URS	Downgradient	Pictured Cliffs Sandstone	9/9/2015	35	5,357.66	5,355.26	24	34	10	5,330.96	5,320.96	5,320.26
MW-70	URS	Downgradient	Pictured Cliffs Sandstone	9/30/2015	53	5,371.12	5,368.62	40	50	10	5,328.62	5,318.62	5,315.62
MW-83	URS	Downgradient	Pictured Cliffs Sandstone	11/29/2018	35	5,343.15	5,341.51	14	29	15	5,327.51	5,312.51	5,306.51
MW-84	URS	Downgradient	Pictured Cliffs Sandstone	11/18/2018	35	5,338.23	5,339.34	10	30	20	5,329.34	5,309.34	5,304.34
MW-85	URS	Downgradient	Pictured Cliffs Sandstone	11/18/2018	35	5,352.78	5,353.69	15	30	15	5,338.69	5,323.69	5,318.69
MW-86	URS	Downgradient	Pictured Cliffs Sandstone	11/17/2018	35	5,338.76	5,338.74	10	30	20	5,328.74	5,308.74	5,303.74
MW-71	URS/CWTP	Background	Pictured Cliffs Sandstone	3/1/2016	50	5,362.91	5,363.62	23	43	20	5,341.12	5,321.12	5,313.62
MW-72	URS/CWTP	Background	Pictured Cliffs Sandstone	3/2/2016	61	5,381.62	5,379.09	51	61	10	5,328.39	5,318.39	5,318.09
MW-73	URS/CWTP	Background	Pictured Cliffs Sandstone	1/18/2017	45	5,353.95	5,351.90	29	44	15	5,323.00	5,308.00	5,306.90
MW-88	RWP	Downgradient	Pictured Cliffs Sandstone	12/6/2019	31	5365.25	5362.71	20	30	10	5,342.71	5,332.71	5,331.71
MW-89	RWP	Downgradient	Pictured Cliffs Sandstone	12/6/2019	35	5370.21	5367.51	24	34	10	5,343.51	5,333.51	5,332.51
MW-90	RWP	Downgradient	Pictured Cliffs Sandstone	12/7/2019	40	5374.08	5372.93	29	39	10	5,343.93	5,333.93	5,332.93

Notes and Abbreviations:

Source of presented information is AECOM, 2017 and Sakura Engineering & Surveying, 2017, 2019, and 2020.

Vertical datum is NAVD 88

[a] - Estimated
[b] - New surveyed elevation after wellhead modifications
AMSL - Above mean sea level
bgs - below ground surface
CCR - coal combustion residual(s)
CWTP - Combined Waste Treatment Pond
DFADA - Dry Fly Ash Disposal Area
ft - feet
RWP - Return Water Pond
URS - Upper Retention Sump

Table 1-2
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Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Casing Elevation [ft AMSL]	Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Screen Elevation [ft AMSL]	Borehole Elevation [ft AMSL]
MW-12R1	DFADA	Background	Lewis Shale	4/10/2018	40	5,270.12	5,268.23	22	32	10	5,246.20	5,236.20	5,228.23
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MW-10	DFADA	Downgradient Boundary	Lewis Shale	3/12/1987	35	5,150.71	5,149.65	13	33	20	5,136.65	5,116.65	5,114.65
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MW-88	RWP	Downgradient Boundary	Pictured Cliffs Sandstone	12/6/2019	31	5,365.25	5,362.71	20	30	10	5,342.71	5,332.71	5,331.71
MW-89	RWP	Downgradient Boundary	Pictured Cliffs Sandstone	12/6/2019	35	5,370.21	5,367.51	24	34	10	5,343.51	5,333.51	5,332.51
MW-90	RWP	Downgradient Boundary	Pictured Cliffs Sandstone	12/7/2019	40	5,374.08	5,372.93	29	39	10	5,343.93	5,333.93	5,332.93

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Source of presented information is AECOM, 2017 and Sakura Engineering & Surveying, 2017, 2019, and 2020.

Vertical datum is NAVD 88

[a] - Estimated

[b] - New surveyed elevation after wellhead modifications

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bgs - below ground surface

CCR - coal combustion residual(s)

CWTP - Combined Waste Treatment Pond

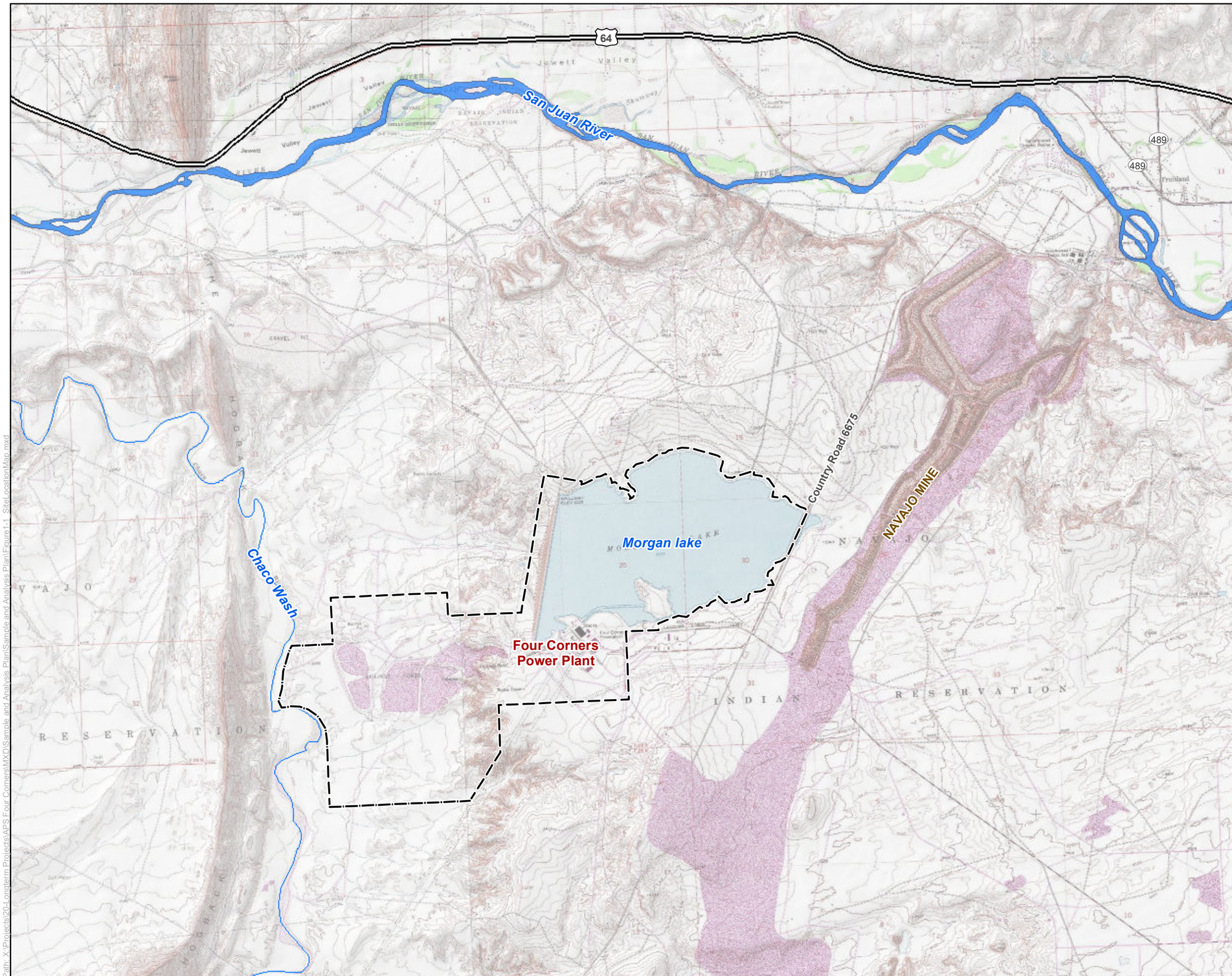
DFADA - Dry Fly Ash Disposal Area

ft - feet

RWP - Return Water Pond

URS - Upper Retention Sump

FIGURE



Area of Detail

Legend

Four Corners Power Plant Lease Boundary

0 0.4 0.8 Miles

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 1-1

Site Location Map

Job No.	14-2022-2006
PM:	MBH
Date:	4/25/2022
Scale:	1"= 0.8 miles

wood.

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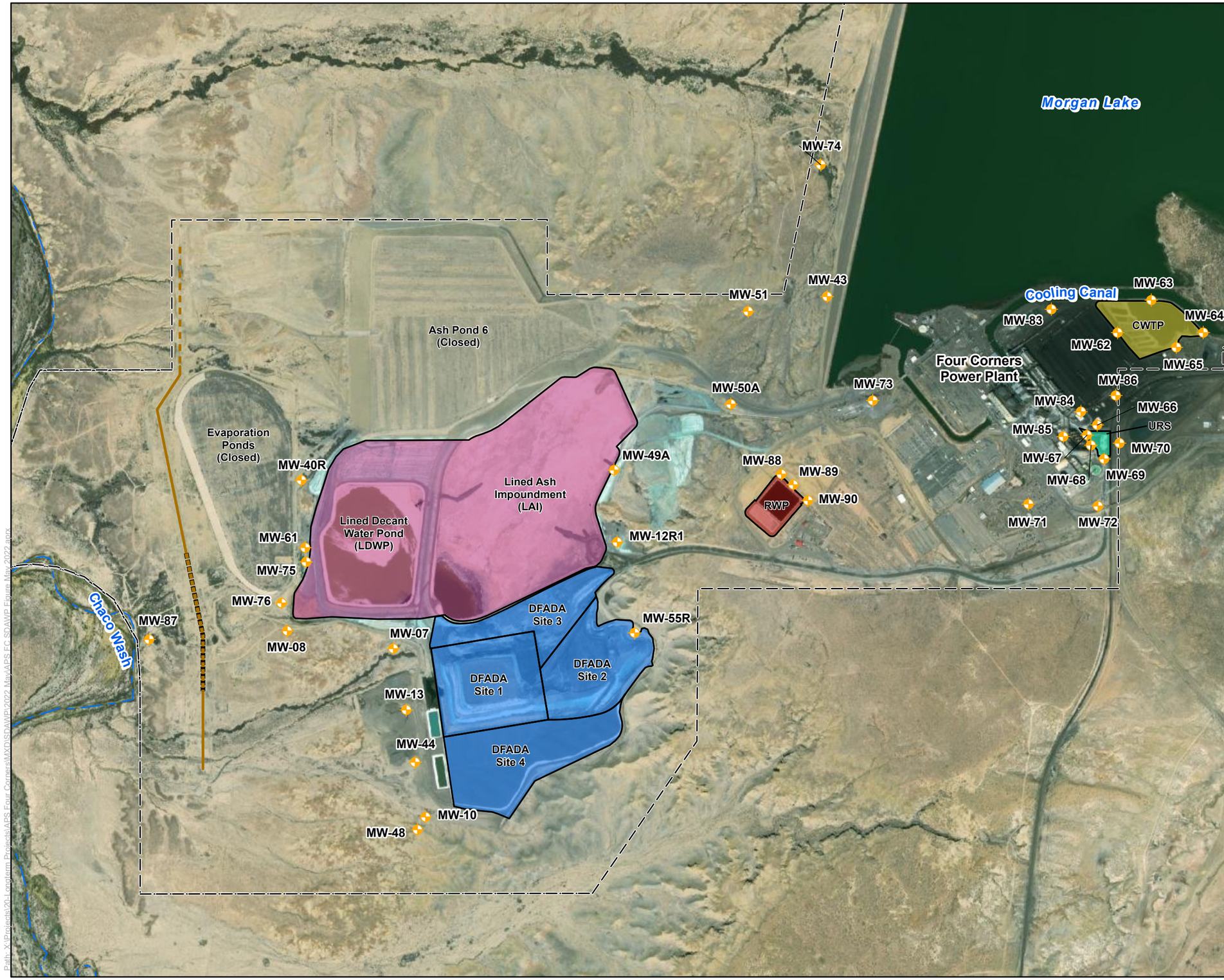
Path: X:\Projects\20-Longterm Projects\APS Four Corners\MXD\Sample and Analysis Plan\Sample and Analysis Plan\Figure1-1_SiteLocationMap.mxd



Legend

- CCR Monitoring Well Location
- FCPP Lease Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Ephemeral Surface Water Feature

CCR Units

- Multiunit 1(LAI and LDWP)
- Dry Fly Ash Disposal Area (DFADA)
- Combined Waste Treatment Pond (CWTP)
- Upper Retention Sump (URS)
- Return Water Pond (RWP)

0 650 1,300 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 1-2

CCR Units and Groundwater Monitoring System Summary Map

Job No.	14-2022-2006
PM:	MBH
Date:	5/12/2022
Scale:	1" = 1300'

wood.

The map shown here has been created with all due and reasonable care and is strictly for use with Wood Environment & Infrastructure Solutions, Inc. Project Number 14-2022-2006. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood Environment & Infrastructure Solutions, Inc. assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

Path: X:\Projects\20-Longterm Projects\APS Four Corners\MXD\SDAWP\2022 May\APS FC SDAWP Figure May 2022.aprx

APPENDIX

C

LABORATORY SPLIT TECHNICAL MEMO

TECHNICAL MEMORANDUM

To: Arizona Public Service Company

Project No: 14-2022-2006/2007

By: Samantha O'Shea

Reviewed by: Maren Henley, PE

Tel: (602) 733-6000

CC: File

Date: January 30, 2023

Re: CCR GROUNDWATER ASSESSMENT MONITORING TECHNICAL EVALUATION OF LABORATORY SPLIT SAMPLING DATA COLLECTED FROM FOUR CORNERS AND CHOLLA POWER PLANTS

Arizona Public Service Company
Four Corners Power Plant – Fruitland, New Mexico
Cholla Power Plant – Navajo County, Arizona

Please be advised that, effective September 21, 2022, Wood Environment & Infrastructure Solutions, Inc. was acquired by WSP. due to the acquisition, we have changed our name to WSP USA Environment & Infrastructure Inc. no other aspects of our legal entity or capabilities have changed for this report, including our Federal Tax ID which remains 91-1641772. correspondence for this report should continue to be addressed to the undersigned.

INTRODUCTION

This Technical Memorandum (Tech Memo) presents the results of a technical evaluation of groundwater monitoring split laboratory data collected from monitoring wells located at the Arizona Public Service Company (APS) Cholla Power Plant in Navajo County, Arizona (Cholla) and at the APS Four Corners Power Plant in Fruitland, New Mexico (Four Corners) (Sites). Wood Environment and Infrastructure Solutions, Inc. (Wood) conducts semi-annual monitoring at the Sites pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Sections 257.90 through 257.98 (CCR Rule) (Federal Register, 2020).

Eurofins Environment Testing America (Eurofins) has been the contracted laboratory for all semi-annual CCR groundwater monitoring at the Sites. Periodic deficiencies were being observed over the course of the project which included some of the following items:

- Laboratory project manager turnover;
- Inconsistent deliverable items including laboratory reports and electronic data deliverables (EDDs);
- Increase in qualifiers associated with:
  - Matrix spike recoveries outside of the quality control (QC) limits;
  - Noted imprecision between primary and field duplicate results;
  - Increase in time between holding and analysis;
  - Detections in the blank samples; and,
- Increase in volume of projects/samples at the laboratory and rush capability limitations.

Eurofins has currently met all project needs and requirements but an exercise of evaluating other laboratory options was performed to confirm the analytical data was receiving the correct attention. The process of selecting the laboratory to analyze the split samples, the selection of the wells to be used in the study, and evaluation and comparison of the results are presented and summarized in this Tech Memo. This Tech Memo evaluates the precision, accuracy, and sensitivity of the sampling data. This Tech Memo also presents recommendations based on the results of the Technical Evaluation.

SAMPLE COLLECTION AND ANALYSIS

PRELIMINARY LABORATORY SELECTION

Multiple laboratories were evaluated to select a generally comparable option to the current laboratory, Eurofins. A scope of work (SOW) was supplied to all laboratory options outlining the project details and requirements. The SOW with a specified analyte list with the established reporting limits (RLs) and method detection limits (MDLs) were provided to the following laboratories:

- SGS EHS USA (SGS);
- Legend Technical Services, Inc. (Legend);
- Pace Analytical National (Pace); and,
- ACZ laboratories, Inc. (ACZ).

The following deficiencies with the specified analyte list for each laboratory were as follows:

- The practical quantitation limit (PQL) for beryllium, antimony, cadmium, selenium, and thallium for SGS was above the lowest background threshold value (BTV);
- The PQL for beryllium, barium, cobalt, chromium, and molybdenum for Legend was above the lowest BTV;
- The PQL for beryllium, cadmium, and thallium for Pace was above the lowest BTV; and,
- The PQL for mercury for ACZ was above the lowest BTV.

Additional analytes were noted to be above the current RL that Eurofins has established for the Sites. Notably, Legend did not supply a lithium analysis and would require a lab subcontractor and ACZ required Environmental Protection Agency (EPA) Method 200.8 to achieve the lower MDL for beryllium. These findings are presented in **Table 1**.

ACZ was able to meet the project requirements most effectively while remaining cost effective. ACZ was chosen for the split sampling comparison based on these findings. Parent samples were sent to Eurofins and ACZ received blind split samples with an SS designation for comparison purposes detailed in the following sections.

FIELD SAMPLE SELECTION AND COLLECTION

The semi-annual CCR groundwater monitoring event (event) was conducted in accordance with the existing Sites sampling and analysis plans (SAPs). The split samples were collected during the semi-annual event. The split samples were collected from a subset of monitoring wells and not the entirety of the monitoring wells that are sampled during the event. The subset of monitoring wells was selected based on spatial location (at each CCR unit and locations to encompass the Sites), the geological unit the well is installed in, and locations with consistent detections of constituents of concern (at varying detected concentrations). For example, at Four Corners; wells were selected because they were downgradient of the URS and Multi-Unit, located at the boundary of the CWTP, and locations with varying historical detections of cobalt and fluoride. The monitoring wells selected are presented in **Table 2**.

The monitoring events occurred at Cholla between April 19th and May 27th, 2022 and at Four Corners between May 15th and 27th, 2022. Parent samples were submitted to Eurofins for Cholla between April 22nd and May 27th, 2022 and for Four Corners between May 25th to May 27th, 2022. Split samples were submitted to ACZ for Cholla between April 25th and June 1st, 2022 and for Four Corners between May 25th to June 1st, 2022. A total of 12 and 11 split samples were collected for Cholla and Four Corners, respectively. Samples were collected in accordance with the Sampling and Analysis Plan (SAP) (Wood, 2022). Samples were submitted to be analyzed for Anions (Ion Chromatography) by EPA Method 300.0, Metals (Inductively coupled plasma [ICP]/Mass spectroscopy [MS]) by EPA Methods 200.7 and 200.8, Mercury (Cold vapor atomic adsorption spectroscopy [CVAA]) by EPA Method 245.1, General Chemistry (Alkalinity, pH, temperature, and total dissolved solids) by EPA Methods SM2320B, SM2540C and SM4500H. These samples and their identifiers are presented in **Table 2**. The Eurofins reports are included

in **Attachment A** and include additional samples associated with the routine monitoring conducted at the Sites. The ACZ analytical reports are included in **Attachment B**.

TECHNICAL EVALUATION RESULTS

ANALYTICAL VALIDATION

A WSP chemist reviewed data from both laboratories (Eurofins and ACZ). As previously stated, the parent samples were submitted to Eurofins (**Attachment A**) and split samples were submitted to ACZ (**Attachment B**). The WSP chemist evaluated all laboratory data and added specific qualifiers based on laboratory deficiencies which are noted in the associated tables. All added qualifiers and reasoning codes are presented in **Table 3** and **4** for Four Corners and Cholla, respectively.

Qualifiers were added based on the following items as presented in **Table 3** and **4**:

- Detected concentration is less than the reporting limit (RL);
- The analyte was detected in the associated laboratory blank;
- Imprecision between primary and field duplicate sample results;
- Hold time exceedances which were primarily associated with pH analysis;
- High or low matrix spike recovery; and,
- Dissolved metal concentrations higher than total metal concentrations.

All analytical data was deemed useable with no significant deficiencies or rejected records. The parent samples and the QA/QC samples (e.g., duplicates and matrix spike/matrix spike duplicates [MS/MSDs]) for Four Corners and Cholla were evaluated as presented in **Table 5** and **6**, respectively. A summary table of the parent and spilt sample analytical data comparison is included in **Table 7** and **8** for the Four Corners and Cholla Sites, respectively. Each comparison table includes the relative percent difference (RPD) between samples and additional notes observed during the validation process.

FIELD DUPLICATE AND INTERLABORATORY SPLIT PRECISION

Precision between primary samples and field duplicate results and primary sample and interlaboratory split results were evaluated for Four Corners and Cholla by a WSP chemist as presented in **Table 5** through **8**. These findings are presented in the following sections.

FOUR CORNERS

The following parent and QA/QC samples were evaluated as presented in **Table 5**:

- MW-87 and FD-04 (split sampling set);

- SW-1 and FD-08 (split sampling set);
- MW-94 and FD-01;
- MW-86 and FD-02;
- MW-52 and FD-03;
- MW-01 and FD-05;
- MW-21 and FD-06; and
- MW-77S and FD-07.

The following primary sample set collected extra volume for MS and MSD analyses, analyzed as separate samples by the laboratory:

- SS02-MS and SS02-SD

Precision values between results from the primary samples and their field duplicates were generally acceptable, with relative percent differences (RPDs) less than 20% or differences between analyte concentrations less than the average reporting limit, with the following exceptions:

- Thallium in samples MW-84 and FD-01;
- Selenium in samples MW-86 and FD-02; and
- Boron in samples MW-21 and FD-06.

Parent and split samples were evaluated and presented in **Table 7**. It was not possible to calculate RPDs for 97 sets of primary and split sample results because the analyte was not detected in one or both samples. Interlaboratory imprecision (defined as a RPD between primary and split sample results greater than 30% and/or the difference between concentrations being greater than the average reporting in results where a detection made by one of the laboratories would be detectable by both laboratories, was noted for the following analytes in the following primary and split sample pairs:

- Chloride in samples SUMP16 and SS10;
- Lithium and sulfate in samples MW64 and SS01; and
- Total dissolved solids (TDS) in samples MW87 and SS07.

Analytes with RPDs exceeding 40% are attributed to interlaboratory imprecision, low level detections, and detections below the average reporting level (RL), A maximum RPD of 128% was observed between M-64A and SS-01 for Arsenic. Cobalt was the only analyte with a notable variance between the parent/split samples. The remaining analytes had lower PRDs, if calculable and no significant differences.

CHOLLA

The following parent and QA/QC samples were evaluated as presented in **Table 6**:

- CR-1R and FD-02 (split sampling set);
- SS-03 and FD-07 (split sampling set);
- M-63A and FD-05 (split sampling set);
- M-60 and FD-01 (split sampling set);
- W-307R and FD-04 (split sampling set);
- M-60 and FD-01;
- MW-79 and FD-03;
- W-307R and FD-04;
- M-63A and FD-05; and,
- M-66A and FD-06.

The following two primary and field duplicate sets that were collected as extra volume for MS and MSD analyses, analyzed as separate samples by the laboratory, and evaluated as field duplicate pairs by Wood (WSP):

  - CR-1R-MS and CR-1R-SD and
  - W-307R-MS and W-307R-SD.

Precision values between results from the primary samples and their field duplicates were generally acceptable, with relative percent differences (RPDs) less than 20% or differences between analyte concentrations less than the average reporting limit, with the following exceptions:

- Chromium in CR-1R and FD-02, SS03 and FD-07, and CR-1R-MS and CR-1R-SD;
- Nitrate/nitrite, thallium, TDS, and dissolved arsenic in samples W-307R and FD-04; and
- Chloride, sulfate, and chromium in M-66A and FD06.

Parent and split samples were evaluated and presented in **Table 7**. It was not possible to calculate RPDs for 111 sets of primary and split sample results because the analyte was not detected in one or both samples. Interlaboratory imprecision (defined as a RPD between primary and split sample results greater than 30% and/or the difference between concentrations being greater than the average reporting in results where a detection made by one of the laboratories would be detectable by both laboratories, was noted for the following analytes in the following primary and split sample pairs:

- Chromium, cobalt, and molybdenum in samples M-57A and SS-04;
- Fluoride, sulfate, cobalt, and dissolved cobalt in samples M-72M and SS-05;
- Iron in samples W-307R and SS-06;
- Manganese, potassium, arsenic, barium, selenium, and dissolved cobalt in samples BAP and SS-07;
- Manganese and potassium in samples Petroglyph and SS-008;
- Cobalt in samples M-63 and SS-09;
- Chloride, sulfate, cobalt, and dissolved cobalt in samples W-12R and SS-10;
- Calcium, selenium, TDS, and dissolved organic carbon in samples FAP and SS-11; and
- Chromium in samples FD-02 and FD-07.

Analytes with RPDs exceeding 40% are attributed to interlaboratory imprecision, low level detections, and detections below the average RL, A maximum RPD of 183% was observed between BAP and SS-07 for Barium. This is a significant RPD which indicated low detections and a significant interlaboratory imprecision. Cobalt, fluoride, manganese, and potassium had significant RPDs in the sample sets. The sample set for Cholla had an increase in interlaboratory imprecision between samples compared to the Four Corners analytical data.

The labs both displayed acceptable laboratory control sample (LCS) recoveries, but data did require qualifiers attributed to high or low matrix spike (MS) recoveries. Eurofins displayed better overall accuracy of the sampling data with less qualifiers and better recovery. ACZ required additional qualifiers due to holding time exceedances which skewed the overall data set accuracy. Eurofin's reporting limits and equipment's capability have lower detection limits when compared to ACZ which attributed to method detection blank detections with the Euronfin sample set. Eurofins has an increased sensitivity when compared to ACZ. This data was properly qualified and deemed useable from both laboratories.

RECOMMENDATIONS

Based on the analytical data evaluation of groundwater samples collected in April and May 2022, there were no records that were rejected or deemed unusable for Eurofins or ACZ. Specific records required the addition or modification of qualifiers as presented in **Table 3** and **4**. No significant discrepancies or data usability was noted between parent and QA/QC samples as presented in **Table 5** and **6**. Data was deemed to be useable and generally comparable from parent to QA/QC sample submitted to Eurofins and ACZ.

The parent/split samples were submitted to Eurofins and ACZ, as previously stated, and the comparison for Four Corners and Cholla were presented in **Table 7** and **8**, respectively. General chemistry analytes (EPA Method 300.0, SM 2540C, and SM4500HB) have shown similar results

between Eurofins and ACZ for Four Corners and Cholla excluding fluoride. Fluoride had some interlaboratory imprecision and a high RPD was observed in the samples submitted for Cholla. An increase of imprecision was noted in the laboratory analysis utilizing EPA Method 200.7 and 200.8 including cobalt, manganese, and potassium when compared to EPA Methods 300.0, SM2320B, SM 4500HB, and SM5310B. This was observed considerably more in the samples collected from Cholla with Cholla having an additional split sample included in the set. This method is used for a majority of the CCR monitoring determinations and the overall understanding of the Sites. The use of ACZ has potential to introduce inconsistencies or variations in the overall data set for the Sites.

Based on this evaluation's findings; it is recommended for the CCR groundwater monitoring samples to continue to be submitted to Eurofins for analysis. This will reduce the occurrence of any variations as the CCR groundwater monitoring program continues and maintain overall program consistency.

REFERENCES

- Federal Register, 2020. 40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments issued through November 12, 2020.

Wood Environment & Infrastructure Solutions, Inc., 2022. Groundwater Sampling and Analysis Program. April 11, 2022.

ABBREVIATIONS AND ACRONYMS

APS	Arizona Public Service
ACZ	ACZ laboratories, Inc.
BTV	Background threshold value
CCR	Coal Combustion Residuals
EPA	Environmental Protection Agency
LCS	Laboratory control sample
MDL	Method detection limits
MS	Mass spectroscopy
PQL	Practical quantitation limit
QC	Quality control
RL	Reporting limit
RPD	Relative percent difference
SAP	Sampling and Analysis Plan
SOW	Scope of work
TDS	Total dissolved solids

TABLES

Table 1
Required Analytes and Laboratory Comparisson

Analyte Type	Analyte Name	Filtered	EPA Method Code	CAS #	RL	Units	TestAmerica (Current Project Limits)		Units	SGS		ACZ		Legend		Pace		Original SAP RL	Lowest BTV or GWPS at Cholla PP	Lowest BTV or GWPS at FC PP
							RL	MDL		PQL	MDL	PQL	MDL	PQL	MDL	PQL	MDL			
App III	Chloride	N	EPA 300.0	16887-00-6	2.00	mg/L	2.00	0.520	mg/L	0.5	0.02	2	0.5	0.1	0.058	1	0.379	2.00	1600	**604.7**
App III & IV	Fluoride	N	EPA 300.0	16984-48-8	0.400	mg/L	0.400	0.0474	mg/L	0.5	0.06	0.35	0.15	0.1	0.02	0.15	0.064	0.400	**0.8**	1.5
App III	Sulfate	N	EPA 300.0	14808-79-8	2.00	mg/L	2.00	0.426	mg/L	0.5	0.03	5	1	0.1	0.062	5	0.594	2.00	**380**	13,000
App III	Boron	N	EPA 200.7	7440-42-8	0.0500	mg/L	0.0500	0.00254	mg/L	0.1	0.004	0.1	0.03	0.1	0.0033	0.03	0.00963	0.0500	**0.23**	0.7
App III	Calcium	N	EPA 200.7	7440-70-2	2.00	mg/L	2.00	0.0130	mg/L	0.3	0.0212	0.5	0.1	1	0.064	1	0.0473	2.000	**101**	454.1
App III	Total Dissolved Solids	N	SM 2540C	STL00242	20.0	mg/L	20.0	20.0	mg/L	10	4	40	20	10	0	10	10	20.0	**3225**	20,000
App III	pH [a]	N	SM 4500HB	STL00204	1.68	SU	1.68	1.68	SU	N/A	N/A	0.1	0.1	na	na	Na	na	1.68	7.3	**6.48**
App IV	Beryllium	N	EPA 200.7	7440-41-7	0.0010	mg/L	0.001	0.0000670	mg/L	**0.004**	0.0004	0.00025	0.00008	**0.002**	0.0002	**0.002**	0.00019	0.00100	**0.001**	**0.001**
App IV	Lithium	N	EPA 200.7	7439-93-2	0.020	mg/L	0.0200	0.00910	mg/L	0.01	0.0044	0.04	0.008	do not provide		0.015	0.00689	0.200	**0.2**	0.8
Additional	Iron	N	EPA 200.7	7439-89-6	0.100	mg/L	0.100	0.0101	mg/L	0.1	0.0095	0.15	0.06	0.05	0.0086	0.05	0.0205	0.100	NA	NA
Additional	Manganese	N	EPA 200.7	7439-96-5	0.0100	mg/L	0.0100	0.000192	mg/L	0.01	0.0006	0.05	0.01	0.02	0.0019	0.01	0.000855	0.0100	NA	NA
Additional	Potassium	N	EPA 200.7	7440-09-7	0.500	mg/L	0.500	0.169	mg/L	0.5	0.105	1	0.2	1	0.25	2	0.108	0.500	NA	NA
Additional	Magnesium	N	EPA 200.7	7439-95-4	2.00	mg/L	2.00	0.0444	mg/L	0.1	0.047	1	0.2	1	0.04	1	0.115	2.00	NA	NA
Additional	Sodium	N	EPA 200.7	7440-23-5	0.500	mg/L	0.500	0.0305	mg/L	0.5	0.1377	1	0.2	1	0.24	2	0.376	0.500	NA	NA
Additional	Iron	Y	EPA 200.7	7439-89-6	0.100	mg/L	0.100	0.0101	mg/L	0.1	0.0095	0.15	0.06	0.05	0.0086	0.05	0.0205	0.100	NA	NA
App IV	Antimony	N	EPA 200.8 [b]	7440-36-0	0.00100	mg/L	0.00100	0.0000435	mg/L	**0.005**	0.000647	0.002	0.0004	0.0005	0.00024	0.004	0.00103	0.00300	**0.004**	0.01
App IV	Arsenic	N	EPA 200.8 [b]	7440-38-2	0.00050	mg/L	0.000500	0.000247	mg/L	0.004	0.000376	0.001	0.0002	0.001	0.00087	0.002	0.00018	0.00300	**0.004**	0.0086
App IV	Barium	N	EPA 200.8 [b]	7440-39-3	0.00050	mg/L	0.000500	0.000259	mg/L	0.005	0.000471	0.0025	0.0005	**0.1**	0.0008	0.002	0.000381	0.00100	0.05	**0.042**
App IV	Cadmium	N	EPA 200.8 [b]	7440-43-9	0.00010	mg/L	0.000100	0.0000231	mg/L	**0.002**	0.000355	0.00025	0.00005	0.0001	0.000029	**0.001**	0.00015	0.00100	**0.0004**	0.001
App IV	Cobalt	N	EPA 200.8 [b]	7440-48-4	0.00050	mg/L	0.000500	0.0000630	mg/L	0.002	0.000637	0.00025	0.00005	**0.02**	0.0015	0.002	0.0000596	0.00100	**0.002**	0.01
App IV	Chromium	N	EPA 200.8 [b]	7440-47-3	0.0010	mg/L	0.00100	0.000433	mg/L	0.004	0.001661	0.002	0.0005	**0.005**	0.0014	0.002	0.00124	0.00200	**0.004**	0.01
App IV	Lead	N	EPA 200.8 [b]	7439-92-1	0.00050	mg/L	0.000500	0.000220	mg/L	0.001	0.000202	0.0005	0.0001	0.001	0.00027	0.002	0.000849	0.00100	**0.002**	0.005
App IV	Molybdenum	N	EPA 200.8 [b]	7439-98-7	0.00050	mg/L	0.000500	0.000202	mg/L	0.002	0.000365	0.0005	0.0002	**0.02**	0.0019	0.005	0.000348	0.00300	**0.0061**	0.011
App IV	Selenium	N	EPA 200.8 [b]	7782-49-2	0.00050	mg/L	0.000500	0.0000743	mg/L	**0.005**	0.00344	0.00025	0.0001	0.002	0.0014	0.002	0.0003	0.00200	**0.002**	0.092
App IV	Thallium	N	EPA 200.8 [b]	7440-28-0	0.00010	mg/L	0.000100	0.0000131	mg/L	**0.004**	0.000409	0.0005	0.0001	0.0005	0.00022	**0.002**	0.000121	**0.00100**	**0.0005**	0.0014
App IV	Hg	N	EPA 245.1	7439-97-6	0.00020	mg/L	0.000200	0.0000700	mg/L	0.0002	0.000072	**0.001**	0.0002	0.0002	0.00002	0.0002	0.0001	0.000200	**0.0002**	**0.0002**
Additional	Arsenic	Y	EPA 200.8 [b]	7440-38-2	0.100	mg/L	0.100	0.00385	mg/L	0.004	0.000376	0.001	0.0002	0.001	0.00087	0.001	0.000195	0.00300	NA	NA
Additional	Cobalt	Y	EPA 200.8 [b]	7440-48-4	0.0100	mg/L	0.0100	0.000660	mg/L	0.002	0.000409	0.00025	0.00005	0.02	0.0015	0.002	0.0000596	0.00100	NA	NA
Additional	Total Organic Carbon	N	SM 5310B	7440-44-0	0.500	mg/L	0.500	0.260	mg/L	1	0.5	5	1	1	0.211	1	0.102	0.500	NA	NA
Additional	Dissolved Organic Carbon	Y	SM 5310B	7440-44-0	0.500	mg/L	0.500	0.260	mg/L	1	0.3	5	1	1	0.254	1	0.106	0.500	NA	NA
Additional	Ammonia	N	EPA 350.1	7664-41-7	0.0500	mg/L	0.0500	0.0388	mg/L	0.2	0.1	0.2	0.05	1	0.25	0.25	0.117	0.0500	NA	NA
Additional	Nitrate Nitrite as N	N	EPA 300.0	STL00217	0.0500	mg/L	0.0500	Na	mg/L	0.5	0.02	0.1	0.02	0.1	0.013	0.1	0.048	NA	NA	NA
Additional	Alkalinity as CaCO3	N	SM 2320B	STL00171	6.00	mg/L	6.00	6.00	mg/L	5	2	20	2	10	2.44	20	8.45	6.00	NA	NA
Additional	Carbonate Alkalinity as CaCO3	N	SM 2320B	STL00154	6.00	mg/L	6.00	6.00	mg/L	5	2	20	2	10	2.7	20	8.45	6.00	NA	NA
Additional	Bicarbonate Alkalinity as CaCO3	N	SM 2320B	STL00138	6.00	mg/L	6.00	6.00	mg/L	5	2	20	2	10	2.9	20	8.45	6.00	NA	NA

Notes:

[a] pH is measured in field at time of sample collection and checked in laboratory

[b] With collision cell

Additional WQ - Non-CCR Constituent (for further water quality evaluations)

App III - CCR Appendix III Constituent

App IIV - CCR Appendix IV Constituent

BTV - Background Threshold Value

CCR - Coal Combustion Residuals

CaCO3 - calcium carbonate

CH PP - Cholla Power Plant

EPA - Environmental Protection Agency

FC PP- Four Corners Power Plant

GWPS - Groundwater Protection Standard

Hg - mercury

MDL - Method Detection Limit

N - nitrogen

PQL - Practical Quantitation Limit

RL - Reporting Limit

SAP - Sampling and Analysis Plan

WQ - water quality

ACZ Notes: • Beryllium is normally run low-level via 200.8 ICP-MS when lower MDLs are needed. Sample will be run via ICP 200.7 and that MDL is not achievable via that method, quote had Be being run 200.8, ICP-MS.

Red text indicates PQL or MDL above currently outlined RL (column H).

Red bolded/underlined indicates value above lowest BTV or GWPS across both sites (columns W and X)

= below lowest BTV or GWPS across both APS sites

= above lowest BTV or GWPS across both APS sites

Table 2
Sample Location Identifiers

Sample ID	Sample location	Notes
Four Corners Power Plant		
FC-CCR-SS01-0522	MW-64	
FC-CCR-SS02-0522	SW-1/Morgan Lake	MS + MSD
FC-CCR-SS03-0522	MW-69	
FC-CCR-SS04-0522	MW-71	
FC-CCR-SS05-0522	MW-83	
FC-CCR-SS06-0522	MW-08	
FC-CCR-SS07-0522	MW-87	
FC-CCR-SS08-0522	MW-03	
FC-CCR-SS09-0522	MW-57	
FC-CCR-SS10-0522	Sump 16	
FC-CCR-FD10-0522	SW-1/Morgan Lake	Duplicate
Cholla Power Plant		
CH-CCR-SS01-0422	M-54	
CH-CCR-SS02-0422	M-60	
CH-CCR-SS03-0422	CR-1R	
CH-CCR-SS04-0422	M-57A	
CH-CCR-SS05-0422	M-72M	
CH-CCR-SS06-0422	W-307R	MS + MSD
CH-CCR-SS07-0422	BAP	
CH-CCR-SS08-0422	Petroglyph	
CH-CCR-SS09-0422	M-63A	
CH-CCR-SS10-0422	W-123R	
CH-CCR-SS11-0422	FAP	
CH-CCR-FD07-0422	W-307R	Duplicate

Notes:
MS: Matrix Spike
MSD: Matrix Spike Duplicate

Table 3

Four Corners Power Plant

Sample Identifiers with Validation Qualifiers

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
FC-CCR-SW1-0222	178969	pH	8.5	S.U.	J	HT
FC-CCR-MW57-0222	178970	pH	7.6	S.U.	J	HT
FC-CCR-MW87-0222	178970	pH	7.6	S.U.	J	HT
FC-CCR-FD10-0522	L73446	pH	8.5	S.U.	J	HT
FC-CCR-FD10-0522	L73446	Antimony	0.00065	mg/L	J	DL
FC-CCR-FD10-0522	L73446	Lead	0.00024	mg/L	J	DL
FC-CCR-FD10-0522	L73446	Fluoride	0.888	mg/L	J	DL
FC-CCR-MW08-0522	184623	pH	7.65	S.U.	J	HT
FC-CCR-MW87-0522	184623	pH	7.75	S.U.	J	HT
FC-CCR-MW69-0522	184630	pH	7.57	S.U.	J	HT
FC-CCR-MW71-0522	184630	pH	7.58	S.U.	J	HT
FC-CCR-MW72-0522	184630	pH	7.50	S.U.	J	HT
FC-CCR-MW73-0522	184630	pH	7.47	S.U.	J	HT
FC-CCR-MW83-0522	184630	pH	7.71	S.U.	J	HT
FC-CCR-MW64-0522	184633	pH	7.90	S.U.	J	HT
FC-CCR-MW57-0522	184634	pH	7.77	S.U.	J	HT
FC-CCR-SS01-0522	L73445	Arsenic	0.00022	mg/L	J	DL
FC-CCR-SS01-0522	L73445	Fluoride	0.874	mg/L	J	DL
FC-CCR-SS01-0522	L73445	pH	8.3	S.U.	J	HT
FC-CCR-SS02-0522	L73445	Antimony	0.00072	mg/L	J	DL
FC-CCR-SS02-0522	L73445	Lead	0.00018	mg/L	J	DL
FC-CCR-SS02-0522	L73445	Fluoride	0.881	mg/L	J	DL
FC-CCR-SS02-0522	L73445	pH	8.5	S.U.	J	HT
FC-CCR-SS03-0522	L73445	Barium	0.00627	mg/L	J	DL
FC-CCR-SS03-0522	L73445	pH	7.8	S.U.	J	HT
FC-CCR-SS03-0522	L73445	Total Dissolved Solids	8,270	mg/L	J	HT
FC-CCR-SS04-0522	L73445	Barium	0.00887	mg/L	J	DL
FC-CCR-SS04-0522	L73445	Boron, total	0.78	mg/L	J	DL
FC-CCR-SS04-0522	L73445	Cobalt	0.00147	mg/L	J	DL
FC-CCR-SS04-0522	L73445	Lithium, total	0.367	mg/L	J	DL
FC-CCR-SS04-0522	L73445	Fluoride	0.28	mg/L	J	DL
FC-CCR-SS04-0522	L73445	pH	7.8	S.U.	J	HT

Table 3

Four Corners Power Plant

Sample Identifiers with Validation Qualifiers

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
FC-CCR-SS05-0522	L73445	Barium	0.00917	mg/L	J	DL
FC-CCR-SS05-0522	L73445	Lithium, total	0.189	mg/L	J	DL
FC-CCR-SS05-0522	L73445	Selenium	0.00101	mg/L	J	DL
FC-CCR-SS05-0522	L73445	Fluoride	2.85	mg/L	J	DL
FC-CCR-SS05-0522	L73445	pH	8.1	S.U.	J	HT
FC-CCR-SS05-0522	L73445	Total Dissolved Solids	5,450	mg/L	J	HT
FC-CCR-SS06-0522	L73445	Barium	0.0102	mg/L	J	DL
FC-CCR-SS06-0522	L73445	Cobalt	0.00144	mg/L	J	DL
FC-CCR-SS06-0522	L73445	pH	7.9	S.U.	J	HT
FC-CCR-SS07-0522	L73445	Boron, total	2.5	mg/L	J	DL
FC-CCR-SS07-0522	L73445	Cobalt	0.00856	mg/L	J	DL
FC-CCR-SS07-0522	L73445	Selenium	0.0072	mg/L	J	DL
FC-CCR-SS07-0522	L73445	pH	8.0	S.U.	J	HT
FC-CCR-SS08-0522	L73445	Cobalt	0.00165	mg/L	J	DL
FC-CCR-SS09-0522	L73445	Barium	0.0164	mg/L	J	DL
FC-CCR-SS09-0522	L73445	Iron, total	0.891	mg/L	J	DL
FC-CCR-SS09-0522	L73445	Manganese, total	0.272	mg/L	J	DL
FC-CCR-SS09-0522	L73445	Fluoride	0.19	mg/L	J	DL
FC-CCR-SS09-0522	L73445	pH	8.0	S.U.	J	HT
FC-CCR-SS10-0522	L73587	Chloride	1,170	mg/L	J	HT

Notes:
mg/L = milligrams per liter
S.U. = standard pH units
pCi/L = picoCuries per liter

Qualifier Definitions:
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the level of the adjusted quantitation limit.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Reason Codes:
DL = The detected concentration is less than the reporting limit.
EB = The analyte was detected in the associated laboratory blank and the concentration detected in the sample was less than five times the blank detection.

FD = Imprecision between primary and field duplicate results

HT = The maximum recommended hold time was exceeded and the result should be considered an estimated value.

HM = High matrix spike recovery. Result may be biased high.

LM = Low matrix spike recovery. Result may be biased low.

MB = The analyte was detected in the associated laboratory blank and the concentration detected in the sample was less than five times the blank detection.

Table 4
Cholla Power Plant
Sample Identifiers with Validation Qualifiers

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
CH-CCR-CR1R-0422	**J182959-1**	**Antimony**	**0.000051**	**mg/L**	**J**	**DL**
CH-CCR-CR1R-0422	J182959-1	Cadmium	0.00010	mg/L	U	MB
CH-CCR-CR1R-0422	J182959-1	Chromium	0.0035	mg/L	J	FD
CH-CCR-CR1R-0422	J182959-1	Cobalt	0.00014	mg/L	J	DL
CH-CCR-CR1R-0422	J182959-1	Fluoride	0.38	mg/L	J	DL
CH-CCR-CR1R-0422	J182959-1	pH	7.8	SU	J	HT
CH-CCR-CR1R-0422	J182959-1	Selenium	0.00011	mg/L	J	DL
CH-CCR-CR1R-0422	J182959-1	Thallium	0.000098	mg/L	J	DL
CH-CCR-FAP-0422	J182959-2	Ammonia	0.041	mg/L	J	DL
CH-CCR-FAP-0422	J182959-2	Cadmium	0.00051	mg/L	J	DL
CH-CCR-FAP-0422	J182959-2	Dissolved Organic Carbon	140	mg/L	J	LM
CH-CCR-FAP-0422	J182959-2	Dissolved Organic Carbon - Duplicate	140	mg/L	J	LM
CH-CCR-FAP-0422	J182959-2	Dissolved Organic Carbon - Quad	140	mg/L	J	LM
CH-CCR-FAP-0422	J182959-2	pH	6.5	SU	J	HT
CH-CCR-FAP-0422	J182959-2	Thallium	0.00055	mg/L	J	DL
CH-CCR-BAP-0422	J182959-3	Antimony	0.00015	mg/L	J	DL
CH-CCR-BAP-0422	J182959-3	Cadmium	0.00010	mg/L	U	MB
CH-CCR-BAP-0422	J182959-3	Iron, dissolved	0.10	mg/L	U	MB
CH-CCR-BAP-0422	J182959-3	pH	8.4	SU	J	HT
CH-CCR-Petroglyph-0422	J182959-3	Chromium	0.00068	mg/L	J	DL
CH-CCR-Petroglyph-0422	J182959-3	Iron	0.10	mg/L	U	MB
CH-CCR-Petroglyph-0422	J182959-3	Iron, dissolved	0.10	mg/L	U	MB
CH-CCR-Petroglyph-0422	J182959-3	pH	7.5	SU	J	HT
CH-CCR-Petroglyph-0422	J182959-3	Thallium	0.00010	mg/L	U	MB
CH-CCR-M57A-0422	J183298	pH	7.2	SU	J	HT
CH-CCR-CR1R-0422-MS	L72735	Chromium	0.00178	mg/L	J	DL
CH-CCR-CR1R-0422-MS	L72735	Lithium	0.0352	mg/L	J	DL
CH-CCR-CR1R-0422-MS	L72735	pH	8.4	SU	J	HT
CH-CCR-CR1R-0422-SD	L72735	Lithium	0.0347	mg/L	J	DL
CH-CCR-CR1R-0422-SD	L72735	pH	8.4	SU	J	HT
CH-CCR-FD07-0422	L72735	Chromium	0.00801	mg/L	J	FD
CH-CCR-FD07-0422	L72735	Lithium	0.0349	mg/L	J	DL
CH-CCR-FD07-0422	L72735	pH	8.4	SU	J	HT
CH-CCR-M63A-0422	J183299	Antimony	0.000080	mg/L	J	DL

Table 4
Cholla Power Plant
Sample Identifiers with Validation Qualifiers

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
CH-CCR-M63A-0422	J183299	Thallium	0.000060	mg/L	J	DL
CH-CCR-M63A-0422	J183299	Fluoride	0.22	mg/L	J	DL
CH-CCR-M63A-0422	J183299	pH	7.4	SU	J	HT
CH-CCR-W123R-0422	J183299	Iron	0.053	mg/L	J	DL
CH-CCR-W123R-0422	J183299	Antimony	0.000080	mg/L	J	DL
CH-CCR-W123R-0422	J183299	pH	7.7	SU	J	HT
CH-CCR-W123R-0422	J183299	Dissolved Organic Carbon	2.1	mg/L	J	LM
CH-CCR-W123R-0422	J183299	Dissolved Organic Carbon - Duplicate	2.0	mg/L	J	LM
CH-CCR-W123R-0422	J183299	Dissolved Organic Carbon - Quad	2.1	mg/L	J	LM
CH-CCR-W123R-0422	J183299	Iron	0.043	mg/L	J	DL
CH-CCR-M51A-0422	J183299	Antimony	0.000053	mg/L	J	DL
CH-CCR-M51A-0422	J183299	Cadmium	0.000039	mg/L	J	DL
CH-CCR-M51A-0422	J183299	Nitrate Nitrite as N	0.20	mg/L	J	DL
CH-CCR-M51A-0422	J183299	pH	7.3	SU	J	HT
CH-CCR-M54-0522	J184147	pH	7.6	SU	J	HT
CH-CCR-M60-0522	J184147	pH	7.8	SU	J	HT
CH-CCR-W307R-0522	J184150	Iron	0.12	mg/L	U	MB
CH-CCR-W307R-0522	J184150	Antimony	0.0010	mg/L	U	MB
CH-CCR-W307R-0522	J184150	Thallium	0.00055	mg/L	J	FD
CH-CCR-W307R-0522	J184150	Fluoride	0.55	mg/L	J	DL
CH-CCR-W307R-0522	J184150	Nitrate Nitrite as N	0.25	mg/L	UJ	FD
CH-CCR-W307R-0522	J184150	Ammonia	0.045	mg/L	J	LM, DL
CH-CCR-W307R-0522	J184150	Total Dissolved Solids	8600	mg/L	J	FD
CH-CCR-W307R-0522	J184150	pH	7.6	SU	J	HT
CH-CCR-W307R-0522	J184150	Arsenic, dissolved	0.00093	mg/L	J	FD
CH-CCR-W307R-0522	J184150	Dissolved Organic Carbon	1.1	mg/L	J	LM, HD
CH-CCR-W307R-0522	J184150	Dissolved Organic Carbon - Duplicate	1.1	mg/L	J	LM, HD
CH-CCR-W307R-0522	J184150	Dissolved Organic Carbon - Quad	1.1	mg/L	J	LM, HD

Notes:

mg/L = milligrams per liter

SU - standard unit

Qualifier Definitions:

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

U = The analyte was analyzed for, but was not detected.

Reason Codes:

DL = The detected concentration is less than the reporting limit.

FD = Imprecision between primary and field duplicate results.

HT = The method-specified maximum hold time was exceeded.

HM = High matrix spike recovery. Result may be biased high.

LM = Low matrix spike recovery. Result may be biased low.

MB = The concentration detected in the sample was less than five times the concentration detected in the associated laboratory blank.

TD = Dissolved concentration is significantly higher than the total concentration.

Table 5
Four Corners Power Plant
Analyte Comparison

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples FC-CCR-MW17R-0222 and FC-CCR-FD01-0222								
Chloride	400	mg/L	450		440		2%	
Fluoride	0.80	mg/L	0.48	J	0.50	J	4%	
Sulfate	400	mg/L	4,600		4,500		2%	
Beryllium	0.0010	mg/L	0.00052	J	0.0010	U	NC	± RL
Lithium	0.020	mg/L	0.47		0.47		0%	
Boron	0.050	mg/L	37		36		3%	
Calcium	2.0	mg/L	480		460		4%	
Magnesium	2.0	mg/L	300		280		7%	
Potassium	0.50	mg/L	20		20		0%	
Sodium	1.0	mg/L	1,100		1,000		10%	
Iron	0.10	mg/L	0.088	J	0.071	J	21%	± RL
Cobalt	0.00050	mg/L	0.061		0.061		0%	
Molybdenum	0.00050	mg/L	0.0012		0.0011		9%	
Alkalinity as CaCO3	6.0	mg/L	140		140		0%	
Bicarbonate Alkalinity as CaC(	6.0	mg/L	140		140		0%	
Total Dissolved Solids	100	mg/L	6,400		6,300		2%	
pH	1.7	S.U.	7.5		7.5		0%	
Samples FC-CCR-SW2-0222 and FC-CCR-FD02-0222								
pH	1.7	S.U.	8.2		8.3		1%	
Samples FC-CCR-MW84-0522 and FC-CCR-FD01-0522								
Chloride	400	mg/L	940		950		1%	
Sulfate	400	mg/L	8,100		8,400		4%	
Lithium	0.020	mg/L	0.25		0.25		0%	
Boron	0.050	mg/L	77		81		5%	
Calcium	2.0	mg/L	480		490		2%	
Barium	0.0010	mg/L	0.015		0.016		6%	
Cadmium	0.00020	mg/L	0.00022		0.00020	U	NC	± RL
Cobalt	0.0010	mg/L	0.0068		0.0071		4%	
Molybdenum	0.0010	mg/L	0.0020		0.0020		0%	
Selenium	0.0010	mg/L	0.070		0.074		6%	
Thallium	0.00020	mg/L	0.0010		0.00035		96%	J-FD
Total Dissolved Solids	100	mg/L	13,000		13,000		0%	
pH	1.68	S.U.	7.35		7.47		2%	
Total Radium	1	pCi/L	0.5	± 0.2	0.9	± 0.2	57%	± RL
Radium 226	1	pCi/L	0.5	± 0.2	0.9	± 0.2	57%	± RL

Table 5
Four Corners Power Plant
AnalyteComparison

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples FC-CCR-MW86-0522 and FC-CCR-FD02-0522								
Chloride	400	mg/L	1,200		1,200		0%	
Fluoride	0.80	mg/L	0.92		0.94		2%	
Sulfate	400	mg/L	8,600		8,400		2%	
Lithium	0.020	mg/L	0.34		0.33		3%	
Boron	0.10	mg/L	110		110		0%	
Calcium	2.0	mg/L	470		460		2%	
Barium	0.0010	mg/L	0.014		0.016		13%	
Cobalt	0.0010	mg/L	0.0052		0.0051		2%	
Molybdenum	0.0010	mg/L	0.0016		0.0016		0%	
Selenium	0.0010	mg/L	0.0029		0.0016		58%	J-FD
Thallium	0.00020	mg/L	0.00064		0.00062		3%	
Total Dissolved Solids	100	mg/L	14,000		14,000		0%	
pH	1.68	S.U.	7.45		7.31		2%	
Samples FC-CCR-MW52-0522 and FC-CCR-FD03-0522								
Boron	0.050	mg/L	16		15		6%	
Cobalt	0.00050	mg/L	0.088		0.092		4%	
Molybdenum	0.00050	mg/L	0.0047		0.0053		12%	
Samples FC-CCR-MW87-0522 and FC-CCR-FD04-0522								
Chloride	400	mg/L	3,300		3,200		3%	
Sulfate	1,000	mg/L	31,000		31,000		0%	
Lithium	0.020	mg/L	2.5		2.5		0%	
Boron	0.10	mg/L	1.5		1.5		0%	
Calcium	4.0	mg/L	450		470		4%	
Magnesium	10	mg/L	2,900		3,000		3%	
Potassium	1.0	mg/L	110		110		0%	
Sodium	10	mg/L	11,000		11,000		0%	
Iron	0.20	mg/L	0.31		0.33		6%	
Manganese	0.020	mg/L	0.47		0.47		0%	
Antimony	0.0010	mg/L	0.0014		0.0014		0%	
Arsenic	0.0010	mg/L	0.0017		0.0016		6%	
Barium	0.0010	mg/L	0.010		0.0097		3%	
Cadmium	0.00010	mg/L	0.00017		0.00013		27%	± RL
Chromium	0.0010	mg/L	0.0010	U	0.0011		NC	± RL
Cobalt	0.00050	mg/L	0.0077		0.0077		0%	
Molybdenum	0.00050	mg/L	0.053		0.055		4%	
Selenium	0.0010	mg/L	0.012		0.013		8%	
Alkalinity as CaCO3	6.0	mg/L	1,200		1,200		0%	
Bicarbonate Alkalinity as CaC(	6.0	mg/L	1,200		1,200		0%	
Total Dissolved Solids	1,000	mg/L	36,000		30,000		18%	
pH	1.68	S.U.	7.75		7.77		0%	
Total Radium	1	pCi/L	3.9	± 0.4	3.9	± 0.4	0%	
Radium 228	1	pCi/L	3.1	± 0.4	3.3	± 0.4	6%	
Radium 226	1	pCi/L	0.8	± 0.2	0.6	± 0.2	29%	± RL

Table 5
Four Corners Power Plant
AnalyteComparison

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples FC-CCR-MW01-0522 and FC-CCR-FD05-0522								
Boron	0.050	mg/L	55		54		2%	
Cobalt	0.00050	mg/L	0.056		0.057		2%	
Molybdenum	0.00050	mg/L	0.025		0.025		0%	
Samples FC-CCR-MW21-0522 and FC-CCR-FD06-0522								
Boron	0.100	mg/L	4.3		0.90		131%	J-FD
Cobalt	0.0020	mg/L	0.0055		0.0048		14%	
Molybdenum	0.0020	mg/L	0.0020	U	0.0024		NC	± RL
Samples FC-CCR-MW77S-0522 and FC-CCR-FD07-0522								
Boron	0.050	mg/L	9.9		9.9		0%	
Cobalt	0.0010	mg/L	0.0066		0.0066		0%	
Molybdenum	0.0010	mg/L	0.017		0.018		6%	
Samples FC-CCR-SW1-0522 and FC-CCR-FD08-0522								
Chloride	4.0	mg/L	46		46		0%	
Fluoride	0.80	mg/L	0.80		0.81		1%	
Sulfate	4.0	mg/L	390		390		0%	
Lithium	0.020	mg/L	0.086		0.087		1%	
Boron	0.050	mg/L	0.32		0.31		3%	
Calcium	2.0	mg/L	78		79		1%	
Arsenic	0.0010	mg/L	0.0015		0.0016		6%	
Barium	0.0010	mg/L	0.18		0.18		0%	
Molybdenum	0.0010	mg/L	0.0061		0.0061		0%	
Total Dissolved Solids	20	mg/L	770		750		3%	
pH	1.68	S.U.	8.28		8.31		0%	
Samples FC-CCR-MW84-0522MS and FC-CCR-MW84-0522SD								
Total Radium	1	pCi/L	0.6	± 0.2	1.6	± 0.4	91%	± RL
Radium 228	1	pCi/L	0.7	U	1.0	± 0.3	NC	± RL
Radium 226	1	pCi/L	0.6	± 0.2	0.6	± 0.2	0%	

Notes:

mg/L = milligrams per liter
NC = not calculable
RL - reporting limit
RPD = relative percent difference
S.U. = standard pH units

Qualifier:

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Reason Code:

± RL = The difference between analyte concentrations is less than or equal to the reporting limit, indicating acceptable sampling and
FD = Imprecision between primary and field duplicate results.

Table 6
Cholla Power Plant
Analyte Comparison

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-CR1R-0422 and CH-CCR-FD02-0422								
Chloride	400	mg/L	580		580		0%	
Fluoride	0.80	mg/L	0.38	J	0.40		5%	
Sulfate	100	mg/L	240		250		4%	
Boron	0.050	mg/L	0.15		0.15		0%	
Lithium	0.020	mg/L	0.033		0.033		0%	
Calcium	2.0	mg/L	100		110		10%	
Antimony	0.0010	mg/L	0.000051	J	0.0010	U	NC	± RL
Barium	0.00050	mg/L	0.074		0.072		3%	
Chromium	0.0010	mg/L	0.0035		0.0048		31%	J-FD
Cobalt	0.00050	mg/L	0.00014	J	0.00013		7%	
Molybdenum	0.00050	mg/L	0.0031		0.0034		9%	
Selenium	0.00050	mg/L	0.00011	J	0.000086		24%	± RL
Thallium	0.00010	mg/L	0.000098	J	0.00010	U	NC	± RL
Total Dissolved Solids	20	mg/L	1,600		1,500		6%	
pH	1.7	SU	7.8		8.0		3%	
Total Radium	1	pCi/L	0.4	± 0.2	0.6	U	NC	± RL
Radium 226	1	pCi/L	0.4	± 0.2	0.3	U	NC	± RL
Samples CH-CCR-SS03-0422 and CH-CCR-FD07-0422								
Barium	0.0025	mg/L	0.073		0.072		1%	
Boron	0.1	mg/L	0.153		0.163		6%	
Calcium	0.5	mg/L	105		109		4%	
Chromium	0.002	mg/L	0.00377		0.00801		72%	J-FD
Cobalt	0.00025	mg/L	0.000498		0.000489		2%	
Iron	0.15	mg/L	0.227		0.24		6%	
Lithium	0.04	mg/L	0.035		0.035		1%	
Manganese	0.05	mg/L	0.756		0.782		3%	
Molybdenum	0.0005	mg/L	0.00322		0.00332		3%	
Chloride	20	mg/L	604		622		3%	
Fluoride	0.35	mg/L	0.45		0.58		25%	± RL
Total Dissolved Solids	40	mg/L	1,560		1,560		0%	
pH	0.1	SU	8.4		8.4		0%	
Sulfate	20	mg/L	241		284		16%	

Table 6
Cholla Power Plant
Analyte Comparison

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-CR1R-0422-MS and CH-CCR-CR1R-0422-SD								
Barium	0.0025	mg/L	0.0712		0.073		2%	
Boron	0.1	mg/L	0.159		0.164		3%	
Calcium	0.5	mg/L	106		107		1%	
Chromium	0.002	mg/L	0.00178	J	0.00436		84%	J-FD
Cobalt	0.00025	mg/L	0.000467		0.000504		8%	
Iron	0.15	mg/L	0.238		0.257		8%	
Lithium	0.04	mg/L	0.0352	J	0.0347	J	1%	
Manganese	0.05	mg/L	0.769		0.771		0%	
Molybdenum	0.0005	mg/L	0.00299		0.00323		8%	
Chloride	20	mg/L	598		612		2%	
Fluoride	0.35	mg/L	0.47		0.46		2%	
Total Dissolved Solids	40	mg/L	1,550		1,560		1%	
pH	0.1	SU	8.4		8.4		0%	
Sulfate	20	mg/L	241		243		1%	
Total Radium	1	pCi/L	0.8	± 0.3	0.6	U	NC	± RL
Radium 228	1	pCi/L	0.8	± 0.3	0.6	U	NC	± RL
Samples CH-CCR-M63A-0422 and CH-CCR-FD05-0422								
Chloride	22	mg/L	420		380		10%	
Fluoride	0.80	mg/L	0.22	J	0.22	J	0%	
Sulfate	220	mg/L	760		720		5%	
Lithium	0.020	mg/L	0.091		0.087		4%	
Boron	0.050	mg/L	0.26		0.23		12%	
Calcium	2.0	mg/L	190		190		0%	
Antimony	0.0010	mg/L	0.000080	J	0.000075	J	6%	
Arsenic	0.00050	mg/L	0.0011		0.0012		9%	
Barium	0.00050	mg/L	0.025		0.024		4%	
Cobalt	0.0005	mg/L	0.00073		0.00073		0%	
Molybdenum	0.0005	mg/L	0.0027		0.0025		8%	
Selenium	0.0005	mg/L	0.0021		0.0022		5%	
Thallium	0.0001	mg/L	0.000060	J	0.000058		3%	
Total Dissolved Solids	20	mg/L	1,900		1,900		0%	
pH	1.7	SU	7.4		7.4		0%	
Total Radium	1	pCi/L	0.6	U	0.7	± 0.3	NC	± RL
Radium 228	1	pCi/L	0.6	U	0.7	± 0.3	NC	± RL

Table 6
Cholla Power Plant
Analyte Comparison

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-M66A-0422 and CH-CCR-FD06-0422								
Chloride	400	mg/L	4,100		12,000		98%	J-FD
Fluoride	0.80	mg/L	1.4		1.4		0%	
Sulfate	400	mg/L	3,000		9,800		106%	J-FD
Lithium	0.020	mg/L	0.53		0.52		2%	
Boron	0.050	mg/L	1.9		1.9		0%	
Calcium	2.0	mg/L	840		810		4%	
Iron	0.1	mg/L	0.96		0.94		2%	
Magnesium	2.000	mg/L	300		280		7%	
Manganese	0.010	mg/L	3.6		3.6		0%	
Potassium	0.5	mg/L	8.6		8.2		5%	
Sodium	5.0	mg/L	2,500		2,500		0%	
Antimony	0.0010	mg/L	0.000057	J	0.000060	J	5%	
Arsenic	0.00050	mg/L	0.0022		0.0026		17%	
Barium	0.00050	mg/L	0.014		0.015		7%	
Cadmium	0.0001	mg/L	0.00024		0.00022		9%	
Chromium	0.0010	mg/L	0.016		0.010		46%	J-FD
Cobalt	0.0005	mg/L	0.0012		0.0012		0%	
Molybdenum	0.0005	mg/L	0.015		0.015		0%	
Selenium	0.0005	mg/L	0.0092		0.0092		0%	
Thallium	0.0001	mg/L	0.00012		0.00012		0%	
Ammonia	0.050	mg/L	0.089		0.060		39%	± RL
Alkalinity	6.0	mg/L	160		160		0%	
Bicarbonate Alkalinity	6.0	mg/L	160		160		0%	
Total Dissolved Solids	100	mg/L	11,000		11,000		0%	
Dissolved Organic Carbon	0.50	mg/L	2.4		2.4		0%	
DOC - Duplicate	0.50	mg/L	2.4		2.5		4%	
DOC - Quad	0.50	mg/L	2.4		2.4		0%	
pH	1.7	SU	7.2		7.2		0%	
Iron, dissolved	0.10	mg/L	0.095	J	0.093	J	2%	
Magnesium, dissolved	0.010	mg/L	3.6		3.6		0%	
Arsenic, dissolved	0.00050	mg/L	0.0012		0.0013		8%	
Cobalt, dissolved	0.00050	mg/L	0.0011		0.0012		9%	
Total Radium	1	pCi/L	0.6	U	0.7	± 0.3	NC	± RL
Radium 228	1	pCi/L	0.6	U	0.7	± 0.3	NC	± RL

Table 6
Cholla Power Plant
Analyte Comparison

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-M60-0522 and CH-CCR-FD01-0522								
Chloride	400	mg/L	1,400		1,300		7%	
Fluoride	0.80	mg/L	1.4		1.4		0%	
Sulfate	100	mg/L	360		350		3%	
Boron	0.050	mg/L	0.50		0.52		4%	
Calcium	2.0	mg/L	87		89		2%	
Total Dissolved Solids	100	mg/L	3,800		3,800		0%	
pH	1.7	SU	7.8		7.6		3%	
Samples CH-CCR-MW79A-0522 and CH-CCR-FD03-0522								
Chloride	400	mg/L	2,300		2,400		4%	
Fluoride	0.80	mg/L	0.69	J	0.67	J	3%	
Nitrate Nitrite as N	0.25	mg/L	3.1		2.7		14%	
Sulfate	400	mg/L	2,300		2,400		4%	
Lithium	0.020	mg/L	0.16		0.15		6%	
Boron	0.050	mg/L	0.35		0.35		0%	
Calcium	2.0	mg/L	760		780		3%	
Iron	0.10	mg/L	0.061	J	0.047	J	26%	± RL
Magnesium	2.0	mg/L	95		93		2%	
Manganese	0.010	mg/L	3.9		3.8		3%	
Potassium	0.50	mg/L	9.6		9.4		2%	
Sodium	2.5	mg/L	1,500		1,500		0%	
Antimony	0.0010	mg/L	0.000048	J	0.000063	J	27%	± RL
Arsenic	0.00050	mg/L	0.0010		0.00098		2%	
Barium	0.00050	mg/L	0.011		0.012		9%	
Cadmium	0.00010	mg/L	0.000058	J	0.000058	J	0%	
Chromium	0.0010	mg/L	0.0010	U	0.00063	J	NC	± RL
Cobalt	0.00050	mg/L	0.0086		0.0079		8%	
Lithium	0.010	mg/L	0.092		0.091		1%	
Molybdenum	0.00050	mg/L	0.013		0.014		7%	
Selenium	0.00050	mg/L	0.0012		0.00093		25%	± RL
Thallium	0.00010	mg/L	0.000034	J	0.00002	J	52%	± RL
Alkalinity as CaCO3	6.0	mg/L	130		130		0%	
Bicarbonate Alkalinity	6.0	mg/L	130		130		0%	
Total Dissolved Solids	100	mg/L	7,000		7,300		4%	
pH	1.7	SU	7.6		7.6		0%	
Iron, dissolved	0.10	mg/L	0.052	J	0.050	J	4%	
Manganese, dissolved	0.010	mg/L	3.9		3.9		0%	
Arsenic, dissolved	0.00050	mg/L	0.00032	J	0.00040	J	22%	± RL
Cobalt, dissolved	0.00050	mg/L	0.0070		0.0073		4%	
Dissolved Organic Carbon	0.50	mg/L	0.67		0.81		19%	
Total Radium	1	pCi/L	0.7	± 0.3	0.7	± 0.3	0%	
Radium 228	1	pCi/L	0.7	± 0.3	0.7	± 0.3	0%	

Table 6
Cholla Power Plant
Analyte Comparison

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-W307R-0522 and CH-CCR-FD04-0522								
Chloride	400	mg/L	2,700		2,700		0%	
Fluoride	0.80	mg/L	0.55	J	0.47	J	16%	
Nitrate Nitrite as N	0.25	mg/L	0.25	U	3.3		NC	UJ/J-FD
Sulfate	400	mg/L	2,900		2,800		4%	
Lithium	0.020	mg/L	0.28		0.26		7%	
Boron	0.050	mg/L	2.8		2.9		4%	
Calcium	2.0	mg/L	700		720		3%	
Iron	0.10	mg/L	0.12		0.11		9%	
Magnesium	2.0	mg/L	160		160		0%	
Manganese	0.010	mg/L	2.3		2.3		0%	
Potassium	0.50	mg/L	4.4		4.2		5%	
Sodium	2.5	mg/L	1,900		2,000		5%	
Antimony	0.0010	mg/L	0.000130	J	0.000077	J	51%	± RL
Arsenic	0.00050	mg/L	0.0015		0.0018		18%	
Barium	0.00050	mg/L	0.011		0.012		9%	
Cadmium	0.00010	mg/L	0.00032		0.00031		3%	
Chromium	0.0010	mg/L	0.002		0.0022		10%	
Cobalt	0.00050	mg/L	0.06		0.060		0%	
Lead	0.00050	mg/L	0.00058		0.00075		26%	± RL
Lithium	0.010	mg/L	0.18		0.200		11%	
Molybdenum	0.00050	mg/L	0.021		0.021		0%	
Selenium	0.00050	mg/L	0.0014		0.0016		13%	
Thallium	0.00010	mg/L	0.00055		0.00010	U	NC	J/UJ-FD
Ammonia	0.05	mg/L	0.045	J	0.050	U	NC	
Alkalinity as CaCO3	6.0	mg/L	150		150		0%	
Bicarbonate Alkalinity	6.0	mg/L	150		150		0%	
Total Dissolved Solids	100	mg/L	8,600		6,900		22%	J-FD
pH	1.7	SU	7.6		7.5		1%	
Iron, dissolved	0.10	mg/L	0.13		0.12		8%	
Manganese, dissolved	0.010	mg/L	2.3		2.4		4%	
Arsenic, dissolved	0.00050	mg/L	0.00093		0.0018		64%	J-FD
Cobalt, dissolved	0.00050	mg/L	0.057		0.061		7%	
Dissolved Organic Carbon	0.50	mg/L	1.1		1.2		9%	
Total Radium	1	pCi/L	0.6	U	0.8	± 0.3	NC	± RL
Radium 228	1	pCi/L	0.6	U	0.8	± 0.3	NC	± RL
Samples CH-CCR-W307R-0522-MS and CH-CCR-W307R-0522-SD								
Total Radium	1	pCi/L	0.6	U	0.7	± 0.7	NC	± RL
Radium 228	1	pCi/L	0.6	U	0.7	± 0.7	NC	± RL

Notes:

mg/L = milligrams per liter

NC = not calculable

pCi/L = picoCuries per liter

SU = standard unit

Qualifier:

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Reason Code:

FD = Imprecision between primary and field duplicate results.

± RL = the difference between detected concentrations were less than the reporting limit.

Table 7
Four Corners Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples FC-CCR-MW64-0522 and FC-CCR-SS01-0522										
Antimony	0.0020	0.002	0.0020	mg/L	0.0020		0.0004	U	NC	≤ Average RL
Arsenic	0.0010	0.001	0.0010	mg/L	0.0010		0.00022	J	128%	≤ Average RL
Barium	0.0010	0.0025	0.0018	mg/L	0.035		0.0329		6%	
Beryllium	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.00008	U	NC	Not Applicable
Boron	0.050	0.1	0.075	mg/L	0.53		0.554		4%	
Cadmium	0.00020	0.00025	0.00023	mg/L	0.00020	U	0.00005	U	NC	≤ Average RL
Calcium	2.0	0.5	1.3	mg/L	77		86.4		12%	
Chromium	0.0020	0.002	0.0020	mg/L	0.0020	U	0.0005	U	NC	≤ Average RL
Cobalt	0.0010	0.00025	0.00063	mg/L	0.0011		0.00113		3%	
Lead	0.0010	0.0005	0.00075	mg/L	0.0010	U	0.0001	U	NC	Not Applicable
Lithium	0.020	0.04	0.030	mg/L	0.027		0.0601		76%	Interlaboratory Imprecision
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Molybdenum	0.0010	0.0005	0.00075	mg/L	0.0049		0.00479		2%	
Selenium	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.0001	U	NC	Not Applicable
Thallium	0.00020	0.0005	0.00035	mg/L	0.00020	U	0.0001	U	NC	≤ Average RL
Chloride	4.0	4	4.0	mg/L	52		43.1		19%	
Fluoride	0.80	0.15	0.48	mg/L	1.4		1.39		1%	
Fluoride	0.80	0.5	0.65	mg/L	1.4		0.874		46%	≤ Average RL
pH	1.68	0.1	0.89	mg/L	7.90		8.3		5%	
TDS	20	20	20	mg/L	850		734		15%	
Sulfate	10	4	7.0	mg/L	290		406		33%	Interlaboratory Imprecision

Table 7
Four Corners Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples FC-CCR-SW1-0522 and FC-CCR-SS02-0522										
Antimony	0.0020	0.002	0.0020	mg/L	0.0020	U	0.00072	J	NC	≤ Average RL
Arsenic	0.0010	0.001	0.0010	mg/L	0.0015		0.00151		1%	
Barium	0.0010	0.0025	0.0018	mg/L	0.18		0.194		7%	
Beryllium	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.00008	U	NC	Not Applicable
Boron	0.050	0.1	0.075	mg/L	0.32		0.326		2%	
Cadmium	0.00020	0.00025	0.00023	mg/L	0.00020	U	0.00005	U	NC	≤ Average RL
Calcium	2.0	0.5	1.3	mg/L	78		85.6		9%	
Chromium	0.0020	0.002	0.0020	mg/L	0.0020	U	0.0005	U	NC	≤ Average RL
Cobalt	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.000273		NC	Not Applicable
Lead	0.0010	0.0005	0.00075	mg/L	0.0010	U	0.00018	J	NC	Not Applicable
Lithium	0.020	0.04	0.030	mg/L	0.086		0.09		5%	
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Molybdenum	0.0010	0.0005	0.00075	mg/L	0.0061		0.00604		1%	
Selenium	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.00051		NC	≤ Average RL
Thallium	0.00020	0.0005	0.00035	mg/L	0.00020	U	0.0001	U	NC	≤ Average RL
Chloride	4.0	20	12	mg/L	46		43.3		6%	
Fluoride	0.80	0.35	0.58	mg/L	0.8		0.83		4%	
Fluoride	0.80	2.5	1.7	mg/L	0.8		0.881		10%	
pH	1.68	0.1	0.89	mg/L	8.28		8.5		3%	
TDS	20	40	30	mg/L	770		766		1%	
Sulfate	4.0	20	12	mg/L	390		409		5%	

Table 7
Four Corners Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples FC-CCR-MW69-0522 and FC-CCR-SS03-0522										
Antimony	0.0020	0.01	0.0060	mg/L	0.0020	U	0.002	U	NC	
Arsenic	0.0010	0.005	0.0030	mg/L	0.0014		0.001	U	NC	≤ Average RL
Barium	0.0010	0.0125	0.0068	mg/L	0.0073		0.00627	J	15%	
Beryllium	0.0010	0.00125	0.00113	mg/L	0.0010	U	0.0004	U	NC	≤ Average RL
Boron	0.050	0.5	0.275	mg/L	45		45.1		0%	
Cadmium	0.00020	0.00125	0.00073	mg/L	0.00020	U	0.00025	U	NC	
Calcium	2.0	2.5	2.3	mg/L	500		527		5%	
Chromium	0.0020	0.01	0.0060	mg/L	0.0020	U	0.0025	U	NC	
Cobalt	0.0010	0.00125	0.0011	mg/L	0.0018		0.00279		43%	≤ Average RL
Lead	0.0010	0.0025	0.0018	mg/L	0.0010	U	0.0005	U	NC	≤ Average RL
Lithium	0.020	0.2	0.11	mg/L	0.21		0.215		2%	
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Molybdenum	0.0010	0.0025	0.0018	mg/L	0.0056		0.00583		4%	
Selenium	0.0010	0.00125	0.0011	mg/L	0.1400		0.131		7%	
Thallium	0.00020	0.0025	0.0014	mg/L	0.00032		0.0005	U	NC	≤ Average RL
Chloride	400	200	300	mg/L	790		942		18%	
Fluoride	0.80	0.35	0.58	mg/L	3.9		3.33		16%	
Fluoride	0.80	25	12.9	mg/L	3.9		5	U	NC	
pH	1.68	0.1	0.89	mg/L	7.57		7.8		3%	
TDS	100	200	150	mg/L	8,300		8,270		0%	
Sulfate	400	200	300	mg/L	4,800		5,360		11%	

Table 7
Four Corners Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples FC-CCR-MW71-0522 and FC-CCR-SS04-0522										
Antimony	0.0020	0.02	0.011	mg/L	0.0020	U	0.004	U	NC	≤ Average RL
Arsenic	0.0010	0.01	0.0055	mg/L	0.0010	U	0.002	U	NC	≤ Average RL
Barium	0.0010	0.025	0.013	mg/L	0.0094		0.00887	J	6%	
Beryllium	0.0010	0.0025	0.0018	mg/L	0.0010	U	0.0008	U	NC	
Boron	0.050	1	0.53	mg/L	0.56		0.780	J	33%	≤ Average RL
Cadmium	0.00020	0.0025	0.0014	mg/L	0.00020	U	0.0005	U	NC	≤ Average RL
Calcium	2.0	5	3.5	mg/L	450		467		4%	
Chromium	0.0020	0.02	0.011	mg/L	0.0020	U	0.005	U	NC	≤ Average RL
Cobalt	0.0010	0.0025	0.0018	mg/L	0.0010	U	0.00147	J	NC	≤ Average RL
Lead	0.0010	0.005	0.0030	mg/L	0.0010	U	0.001	U	NC	
Lithium	0.020	0.4	0.21	mg/L	0.37		0.367	J	1%	
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Molybdenum	0.0010	0.005	0.0030	mg/L	0.0010	U	0.002	U	NC	≤ Average RL
Selenium	0.0010	0.0025	0.0018	mg/L	0.28		0.233		18%	
Thallium	0.00020	0.005	0.0026	mg/L	0.00037		0.001	U	NC	≤ Average RL
Chloride	400	400	400	mg/L	560		642		14%	
Fluoride	0.80	0.35	0.58	mg/L	0.80	U	0.28		NC	≤ Average RL
Fluoride	0.80	50	25	mg/L	0.80	U	10	U	NC	≤ Average RL
pH	1.68	0.1	0.89	mg/L	7.58		7.8		3%	
TDS	100	200	150	mg/L	16,000		16,000		0%	
Sulfate	400	400	400	mg/L	9,900		12,400		22%	

Table 7
Four Corners Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples FC-CCR-MW83-0522 and FC-CCR-SS05-0522										
Antimony	0.0020	0.01	0.0060	mg/L	0.0020	U	0.002	U	NC	
Arsenic	0.0010	0.005	0.0030	mg/L	0.0010	U	0.001	U	NC	
Barium	0.0010	0.0125	0.0068	mg/L	0.0090		0.00917	J	2%	
Beryllium	0.0010	0.00125	0.0011	mg/L	0.0010	U	0.0004	U	NC	≤ Average RL
Boron	0.050	0.5	0.28	mg/L	2.4		2.46		2%	
Cadmium	0.00020	0.00125	0.00073	mg/L	0.00020	U	0.00025	U	NC	
Calcium	2.0	2.5	2.3	mg/L	440		503		13%	
Chromium	0.0020	0.01	0.0060	mg/L	0.0020	U	0.0025	U	NC	
Cobalt	0.0010	0.00125	0.0011	mg/L	0.0015		0.00241		47%	≤ Average RL
Lead	0.0010	0.0025	0.0018	mg/L	0.0010	U	0.0005	U	NC	≤ Average RL
Lithium	0.020	0.2	0.11	mg/L	0.18		0.189	J	5%	
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Molybdenum	0.0010	0.0025	0.0018	mg/L	0.0073		0.00732		0%	
Selenium	0.0010	0.00125	0.0011	mg/L	0.0012		0.00101	J	17%	
Thallium	0.00020	0.0025	0.0014	mg/L	0.00020	U	0.0005	U	NC	≤ Average RL
Chloride	4.0	100	52	mg/L	130		112		15%	
Fluoride	0.80	0.35	0.58	mg/L	2.0		1.78		12%	
Fluoride	0.80	12.5	6.7	mg/L	2.0		2.85	J	35%	≤ Average RL
pH	1.68	0.1	0.89	mg/L	7.71		8.1		5%	
TDS	100	80	90	mg/L	5,300		5,450		3%	
Sulfate	400	100	250	mg/L	3,500		3,530		1%	

Table 7
Four Corners Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples FC-CCR-MW08-0522 and FC-CCR-SS06-0522										
Antimony	0.0010	0.02	0.011	mg/L	0.0010	U	0.004	U	NC	≤ Average RL
Arsenic	0.0005	0.01	0.0053	mg/L	0.00056		0.002	U	NC	≤ Average RL
Barium	0.0005	0.025	0.013	mg/L	0.011		0.0102	J	8%	
Beryllium	0.0010	0.0025	0.0018	mg/L	0.0010	U	0.0008	U	NC	
Boron	0.050	1	0.53	mg/L	17		17		0%	
Cadmium	0.00010	0.0025	0.0013	mg/L	0.00014		0.0005	U	NC	≤ Average RL
Calcium	2.0	5	3.5	mg/L	420		444		6%	
Chromium	0.0010	0.02	0.0105	mg/L	0.0010	U	0.005	U	NC	≤ Average RL
Cobalt	0.00050	0.0025	0.00150	mg/L	0.00050	U	0.00144	J	NC	≤ Average RL
Lead	0.00050	0.005	0.003	mg/L	0.00050	U	0.001	U	NC	≤ Average RL
Lithium	0.020	0.4	0.21	mg/L	1.2		1.21		1%	
Magnesium	2.0	10	6	mg/L	970		901		7%	
Mercury	0.00020	0.001	0.0006	mg/L	0.00020	U	0.0002	U	NC	
Molybdenum	0.00050	0.005	0.0028	mg/L	0.015		0.0154		3%	
Potassium	0.50	10	5.3	mg/L	38		37.1		2%	
Selenium	0.0010	0.0025	0.0018	mg/L	0.0015		0.001	U	NC	≤ Average RL
Sodium	2.5	10	6.3	mg/L	3,000		2,940		2%	
Thallium	0.00020	0.005	0.0026	mg/L	0.00020	U	0.001	U	NC	≤ Average RL
Chloride	400	80	240	mg/L	1,100		1,070		3%	
Fluoride	0.80	0.15	0.48	mg/L	0.80	U	0.70		NC	
Fluoride	0.80	10	5.4	mg/L	0.80	U	10	U	NC	Not Applicable
pH	1.68	0.1	0.89	mg/L	7.65		7.9		3%	
TDS	100	100	100	mg/L	15,000		16,100		7%	
Sulfate	400	80	240	mg/L	10,000		10,600		6%	

Table 7
Four Corners Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples FC-CCR-MW87-0522 and FC-CCR-SS07-0522										
Antimony	0.0010	0.1	0.051	mg/L	0.0014		0.02	U	NC	≤ Average RL
Arsenic	0.0010	0.05	0.026	mg/L	0.0017		0.01	U	NC	≤ Average RL
Barium	0.0010	0.125	0.063	mg/L	0.010		0.025	U	NC	≤ Average RL
Beryllium	0.0020	0.0125	0.0073	mg/L	0.0020	U	0.004	U	NC	≤ Average RL
Boron	0.10	5	2.6	mg/L	1.5		2.50	J	50%	≤ Average RL
Cadmium	0.00010	0.0125	0.0063	mg/L	0.00017		0.0025	U	NC	≤ Average RL
Calcium	4.0	25	15	mg/L	450		472		5%	
Chromium	0.0010	0.1	0.051	mg/L	0.0010		0.025	U	NC	≤ Average RL
Cobalt	0.00050	0.0125	0.0065	mg/L	0.0077		0.00856	J	11%	
Iron	0.20	7.5	3.9	mg/L	0.3100		3	U	NC	≤ Average RL
Lead	0.00050	0.025	0.013	mg/L	0.00050	U	0.005	U	NC	≤ Average RL
Lithium	0.020	2	1.0	mg/L	2.5		2.34		7%	
Magnesium	10	50	30	mg/L	2,900		2,680		8%	
Manganese	0.020	2.5	1.3	mg/L	0.47		0.5	U	NC	
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Molybdenum	0.00050	0.025	0.013	mg/L	0.053		0.0548		3%	
Potassium	1.0	50	26	mg/L	110		101		9%	
Selenium	0.0010	0.0125	0.0068	mg/L	0.012		0.0072	J	50%	≤ Average RL
Sodium	10	50	30	mg/L	11,000		10,900		1%	
Thallium	0.00040	0.025	0.013	mg/L	0.00040	U	0.005	U	NC	≤ Average RL
Alkalinity, Carbonate	6.0	20	13	mg/L	6.0	U	2	U	NC	≤ Average RL
Alkalinity, Bicarbonate	6.0	20	13	mg/L	1,200		1,160		3%	
Alkalinity, Hydroxide	6.0	20	13	mg/L	6.0	U	2	U	NC	≤ Average RL
Alkalinity, Total	6.0	20	13	mg/L	1,200		1,160		3%	
Chloride	400	1,000	700	mg/L	3,300		3,040		8%	
Fluoride	0.80	0.35	0.58	mg/L	0.80	U	0.51		NC	≤ Average RL
Fluoride	0.80	125	63	mg/L	0.80	U	25	U	NC	≤ Average RL
pH	1.68	0.1	0.89	mg/L	7.75		8.0		3%	
TDS	1,000	1,000	1,000	mg/L	36,000		50,100		33%	Interlaboratory Imprecision
Sulfate	1,000	1,000	1,000	mg/L	31,000		31,900		3%	

Table 7
Four Corners Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples FC-CCR-MW03-0522 and FC-CCR-SS08-0522										
Boron	0.050	0.5	0.28	mg/L	8.0		8.17		2%	
Cobalt	0.00050	0.0025	0.00150	mg/L	0.00055		0.00165	J	100%	≤ Average RL
Molybdenum	0.00050	0.005	0.00275	mg/L	0.0014		0.002	U	NC	≤ Average RL
Samples FC-CCR-MW57-0522 and FC-CCR-SS09-0522										
Antimony	0.0020	0.02	0.011	mg/L	0.0020	U	0.004	U	NC	≤ Average RL
Arsenic	0.0010	0.01	0.0055	mg/L	0.0010	U	0.002	U	NC	≤ Average RL
Barium	0.0010	0.025	0.013	mg/L	0.017		0.0164	J	4%	
Beryllium	0.0010	0.0025	0.0018	mg/L	0.0010	U	0.0008	U	NC	
Boron	0.050	1	0.53	mg/L	1.0		1.25		22%	
Cadmium	0.00020	0.0025	0.0014	mg/L	0.00020	U	0.0005	U	NC	≤ Average RL
Calcium	2.0	5	3.5	mg/L	400		442		10%	
Chromium	0.0020	0.02	0.011	mg/L	0.0020	U	0.005	U	NC	≤ Average RL
Cobalt	0.0010	0.0025	0.0018	mg/L	0.0029		0.00362		22%	
Iron	0.10	1.5	0.80	mg/L	0.51		0.891	J	54%	≤ Average RL
Lead	0.0010	0.005	0.0030	mg/L	0.0010	U	0.001	U	NC	
Lithium	0.020	0.4	0.21	mg/L	0.80		0.809		1%	
Magnesium	2.0	10	6.0	mg/L	730		712		2%	
Manganese	0.010	0.5	0.26	mg/L	0.26		0.272		5%	
Molybdenum	0.0010	0.005	0.0030	mg/L	0.0058		0.00544		6%	
Potassium	0.50	10	5.3	mg/L	41		41.8		2%	
Selenium	0.0010	0.0025	0.0018	mg/L	0.0020		0.001	U	NC	≤ Average RL
Sodium	2.5	10	6.3	mg/L	2,000		2,030		1%	
Thallium	0.00040	0.005	0.0027	mg/L	0.00040	U	0.001	U	NC	≤ Average RL
Alkalinity, Carbonate	6.0	20	13	mg/L	430		393		9%	
Alkalinity, Bicarbonate	6.0	20	13	mg/L	6.0	U	2	U	NC	≤ Average RL
Alkalinity, Hydroxide	6.0	20	13	mg/L	6.0	U	2	U	NC	≤ Average RL
Alkalinity, Total	6.0	20	13	mg/L	430		393		9%	
Chloride	400	400	400	mg/L	520		484		7%	
Fluoride	0.80	0.35	0.58	mg/L	0.80	U	0.19	J	NC	Not Applicable
Fluoride	0.80	50	25.4	mg/L	0.80	U	10	U	NC	≤ Average RL
pH	1.67	0.1	0.885	mg/L	7.77		8.0		3%	
TDS	100	200	150	mg/L	12,000		11,800		2%	
Sulfate	400	400	400	mg/L	7,500		8,420		12%	

Table 7
Four Corners Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples FC-CCR-SUMP16-0522 and FC-CCR-SS010-0522										
Boron	0.050	2	1.0	mg/L	13		10.5		21%	
Cobalt	0.0010	0.005	0.0030	mg/L	0.0250		0.0225		11%	
Iron	0.10	3	1.6	mg/L	0.26		1.2	U	NC	≤ Average RL
Magnesium	10	20	15	mg/L	2,100		1,940		8%	
Manganese	0.010	1	0.51	mg/L	0.010	U	0.2	U	NC	≤ Average RL
Molybdenum	0.0020	0.01	0.0060	mg/L	0.0020		0.004		67%	≤ Average RL
Chloride	200.0	1,000	600	mg/L	4,000		1,170		109%	Interlaboratory Imprecision
TDS	1,000	400	700	mg/L	27,000		20,400		28%	
Samples FC-CCR-FD08-0522 and FC-CCR-FD10-0522										
Antimony	0.0020	0.002	0.0020	mg/L	0.0020	U	0.00065	J	NC	≤ Average RL
Arsenic	0.0010	0.001	0.0010	mg/L	0.0016		0.0022		32%	≤ Average RL
Barium	0.0010	0.0025	0.0018	mg/L	0.18		0.176		2%	
Beryllium	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.00008	U	NC	Not Applicable
Boron	0.050	0.1	0.075	mg/L	0.31		0.345		11%	
Cadmium	0.00020	0.00025	0.00023	mg/L	0.00020	U	0.00005	U	NC	≤ Average RL
Calcium	2.0	0.5	1.3	mg/L	79		85		7%	
Chromium	0.0020	0.002	0.0020	mg/L	0.0020	U	0.0005	U	NC	≤ Average RL
Cobalt	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.000416		NC	≤ Average RL
Lead	0.0010	0.0005	0.00075	mg/L	0.0010	U	0.00024	J	NC	Not Applicable
Lithium	0.020	0.04	0.030	mg/L	0.087		0.0851		2%	
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Molybdenum	0.0010	0.0005	0.00075	mg/L	0.0061		0.00616		1%	
Selenium	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.00079		NC	
Thallium	0.00020	0.0005	0.00035	mg/L	0.00020	U	0.0001	U	NC	≤ Average RL
Chloride	4.0	20	12	mg/L	46		42.7		7%	
Fluoride	0.80	0.35	0.58	mg/L	0.81		0.83		2%	
Fluoride	0.80	2.5	1.7	mg/L	0.81		0.888	J	9%	
pH	1.68	0.1	0.89	mg/L	8.31		8.5		2%	
TDS	20	80	50	mg/L	750		740		1%	
Sulfate	4.0	20	12	mg/L	390		403		3%	

Notes:

ACZ - ACZ Laboratories, Inc.

J - concentration is an estimation

mg/L - milligrams per liter

NC = not calculable

RL - reporting limit

RPD - relative percent difference

Test America - TestAmerica Laboratories, Inc.

U - not detected above the laboratory detection limit

% - percent

Table 8
Cholla Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples CH-CCR-M54-0522 and CH-CCR-SS01-0522										
Chloride	400	40	220	mg/L	1,400		1,480		6%	
Fluoride	0.80	0.35	0.58	mg/L	1.4		1.50		7%	
Sulfate	100	40	70	mg/L	360		353		2%	
Boron	0.050	0.2	0.13	mg/L	0.50		0.482		4%	
Calcium	2.0	1	1.5	mg/L	99		96.5		3%	
Total Dissolved Solids	100	40	70	mg/L	3,100		3,100		0%	
pH	1.7	0.1	0.90	SU	7.6		8.2		8%	
Samples CH-CCR-M60-0522 and CH-CCR-SS02-0522										
Chloride	400	40	220	mg/L	1,400		1,360		3%	
Fluoride	0.80	0.35	0.58	mg/L	1.4		1.57		11%	
Sulfate	100	40	70	mg/L	360		350		3%	
Boron	0.050	0.2	0.13	mg/L	0.50		0.483		3%	
Calcium	2.0	1	1.5	mg/L	87		84.8		3%	
Total Dissolved Solids	100	40	70	mg/L	3,800		2,880		28%	
pH	1.7	0.1	0.90	SU	7.8		8.2		5%	
Samples CH-CCR-CR1R-0422 and CH-CCR-SS03-0422										
Chloride	400	20	210	mg/L	580		604		4%	
Fluoride	0.80	0.35	0.58	mg/L	0.38	J	0.45		17%	
Sulfate	100	20	60	mg/L	240		241		0%	
Boron	0.050	0.1	0.075	mg/L	0.15		0.153		2%	
Lithium	0.020	0.04	0.030	mg/L	0.033		0.0346	J	5%	
Calcium	2.0	0.5	1.3	mg/L	100		105		5%	
Beryllium	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.00008	U	NC	Not Applicable
Antimony	0.0010	0.002	0.0015	mg/L	0.000051	J	0.0004	U	NC	≤ Average RL
Arsenic	0.00050	0.001	0.00050	mg/L	0.00050	U	0.0002	U	NC	≤ Average RL
Barium	0.00050	0.0025	0.0015	mg/L	0.074		0.0732		1%	
Cadmium	0.00010	0.00025	0.00018	mg/L	0.00010	U	0.00025	U	NC	≤ Average RL
Chromium	0.0010	0.002	0.0015	mg/L	0.0035		0.00377		7%	
Cobalt	0.00050	0.00025	0.00038	mg/L	0.00014	J	0.000498		112%	≤ Average RL
Lead	0.00050	0.0005	0.00050	mg/L	0.00050	U	0.0005	U	NC	
Molybdenum	0.00050	0.0005	0.00050	mg/L	0.0031		0.00322		4%	
Selenium	0.00050	0.00025	0.00038	mg/L	0.00011	J	0.00025	U	NC	≤ Average RL
Thallium	0.00010	0.0005	0.00030	mg/L	0.000098	J	0.0005	U	NC	Not Applicable
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.001	U	NC	Not Applicable
Total Dissolved Solids	20	40	30	mg/L	1,600		1,560		3%	
pH	1.7	0.1	0.90	SU	7.8		8.4		7%	

Table 8
Cholla Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Samples CH-CCR-M57A-0422 and CH-CCR-SS04-0422										
Chloride	400	100	250	mg/L	2,000		1,880		6%	
Fluoride	0.80	0.35	0.58	mg/L	0.33	J	0.38		14%	
Sulfate	400	40	220	mg/L	1,100		1,160		5%	
Beryllium	0.0010	0.00125	0.0011	mg/L	0.0010	U	0.0004	U	NC	≤ Average RL
Lithium	0.020	0.2	0.110	mg/L	0.10		0.103		3%	
Boron	0.050	0.5	0.28	mg/L	0.42		0.454		8%	
Calcium	2.0	2.5	2.3	mg/L	440		434		1%	
Antimony	0.0010	0.01	0.0055	mg/L	0.000049	J	0.002	U	NC	≤ Average RL
Arsenic	0.00050	0.005	0.0028	mg/L	0.0023		0.00203	J	12%	
Barium	0.00050	0.0125	0.0065	mg/L	0.045		0.0454		1%	
Cadmium	0.00010	0.00125	0.00068	mg/L	0.000052	J	0.00025	U	NC	≤ Average RL
Chromium	0.0010	0.01	0.0055	mg/L	0.082		0.191		80%	Interlaboratory Imprecision
Cobalt	0.00050	0.00125	0.00088	mg/L	0.0035		0.00704		67%	Interlaboratory Imprecision
Lead	0.00050	0.0025	0.0015	mg/L	0.00050	U	0.0005	U	NC	
Molybdenum	0.00050	0.0025	0.0015	mg/L	0.0097		0.0189		64%	Interlaboratory Imprecision
Selenium	0.00050	0.00125	0.00088	mg/L	0.00024	J	0.0005	U	NC	≤ Average RL
Thallium	0.00010	0.0025	0.0013	mg/L	0.000018	J	0.0005	U	NC	≤ Average RL
Mercury	0.00020	0.001	0.00060	mg/L	0.00014	J	0.0002	U	NC	≤ Average RL
Total Dissolved Solids	100	80	90	mg/L	4,700		4,900		4%	
pH	1.7	0.1	0.90	SU	7.2		7.9		9%	
Samples CH-CCR-M72M-0522 and CH-CCR-SS05-0522										
Chloride	2,000	400	1,200	mg/L	36,000		36,900		2%	
Fluoride	0.80	0.35	0.58	mg/L	1.3		0.29	J	127%	Interlaboratory Imprecision
Nitrate/Nitrite	0.25	0.1	0.18	mg/L	0.25	U	0.176		NC	≤ Average RL
Sulfate	400	1,000	700	mg/L	3,500		975	J	113%	Interlaboratory Imprecision
Beryllium	0.0020	0.0125	0.0013	mg/L	0.0020	U	0.004	U	NC	Not Applicable
Lithium	0.020	2	1.0	mg/L	4.60		4.18		10%	
Boron	0.10	5	2.6	mg/L	0.47		1.5	U	NC	≤ Average RL
Calcium	20	25	23	mg/L	8,200		8,260		1%	
Iron	0.20	7.5	3.9	mg/L	0.15	J	3	U	NC	≤ Average RL
Magnesium	4.0	50	27	mg/L	1,300		1,020		24%	
Manganese	0.020	2.5	1.3	mg/L	6.0		4.57		27%	
Potassium	1.0	50	26	mg/L	160		109		38%	Interlaboratory Imprecision
Sodium	10	50	30	mg/L	13,000		12,800		2%	
Antimony	0.010	0.1	0.055	mg/L	0.00067	J	0.02	U	NC	≤ Average RL
Arsenic	0.0050	0.05	0.028	mg/L	0.015		0.01	U	NC	≤ Average RL
Barium	0.0050	0.125	0.065	mg/L	0.20		0.197		2%	
Cadmium	0.0010	0.0125	0.0068	mg/L	0.00041	J	0.0025	U	NC	≤ Average RL

Table 8
Cholla Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Chromium	0.010	0.1	0.055	mg/L	0.010	U	0.025	U	NC	≤ Average RL
Cobalt	0.0050	0.0125	0.0088	mg/L	0.0084		0.0387		129%	Interlaboratory Imprecision
Lead	0.0050	0.025	0.015	mg/L	0.0050	U	0.005	U	NC	
Lithium	0.10	2	1.1	mg/L	3.1		4.18		30%	
Molybdenum	0.0050	0.025	0.015	mg/L	0.026		0.0295		13%	
Selenium	0.0050	0.0125	0.0088	mg/L	0.015		0.005	U	NC	Not Applicable
Thallium	0.0010	0.025	0.013	mg/L	0.0016		0.005	U	NC	≤ Average RL
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Ammonia	0.050	0.2	0.13	mg/L	1.4		1.04		30%	
Alkalinity as CaCO3	6.0	20	13	mg/L	42		29.9		34%	≤ Average RL
Bicarbonate Alkalinity	6.0	20	13	mg/L	42		29.9		34%	≤ Average RL
Carbonate Alkalinity	6.0	20	13	mg/L	6.0	U	2	U	NC	≤ Average RL
Hydroxide Alkalinity	6.0	10	8	mg/L	6.0	U	2	U	NC	≤ Average RL
Total Dissolved Solids	100	1,000	550	mg/L	58,000		67,500		15%	
pH	1.7	0.1	0.90	SU	7.1		7.0		1%	
Iron, Dissolved	0.20	7.5	3.9	mg/L	0.17	J	3	U	NC	≤ Average RL
Manganese, Dissolved	0.020	2.5	1.3	mg/L	6.1		4.87		22%	
Arsenic, Dissolved	0.0050	0.05	0.028	mg/L	0.015		0.01	U	NC	≤ Average RL
Cobalt, Dissolved	0.0050	0.0125	0.0088	mg/L	0.0081		0.0301		115%	Interlaboratory Imprecision
Dissolved Organic Carbon	0.50	5	2.8	mg/L	1.0		1	U	NC	
Samples CH-CCR-W307R-0522 and CH-CCR-SS06-0522										
Chloride	400	100	250	mg/L	2,700		2,730		1%	
Fluoride	0.80	0.35	0.58	mg/L	0.55		0.32	J	53%	≤ Average RL
Nitrate/Nitrite	0.25	0.1	0.18	mg/L	0.25	U	0.02	U	NC	Not Applicable
Sulfate	400	100	250	mg/L	2,900		2,900		0%	
Beryllium	0.0010	0.00125	0.0013	mg/L	0.0010	U	0.0004	U	NC	≤ Average RL
Lithium	0.020	0.2	0.11	mg/L	0.28		0.234		18%	
Boron	0.050	0.5	0.28	mg/L	2.8		2.68		4%	
Calcium	2.0	2.5	2.3	mg/L	700		704		1%	
Iron	0.10	0.75	0.43	mg/L	0.12		0.666	J	139%	Interlaboratory Imprecision
Magnesium	2.0	5	3.5	mg/L	160		156		3%	
Manganese	0.010	0.25	0.13	mg/L	2.3		2.38		3%	
Potassium	0.50	5	2.8	mg/L	4.4		6.73		42%	≤ Average RL
Sodium	2.5	5	3.8	mg/L	1,900		1,840		3%	
Antimony	0.0010	0.01	0.006	mg/L	0.00013	J	0.002	U	NC	≤ Average RL
Arsenic	0.00050	0.005	0.0028	mg/L	0.0015		0.001	U	NC	≤ Average RL
Barium	0.00050	0.0125	0.0065	mg/L	0.011		0.0110	J	0%	
Cadmium	0.00010	0.00125	0.00068	mg/L	0.00032		0.000408	J	24%	
Chromium	0.0010	0.01	0.0055	mg/L	0.0020		0.0025	U	NC	

Table 8
Cholla Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Cobalt	0.00050	0.00125	0.00088	mg/L	0.060		0.0596		1%	
Lead	0.00050	0.0025	0.0015	mg/L	0.00058		0.00061	J	5%	
Lithium	0.010	0.2	0.1050	mg/L	0.18		0.234		26%	
Molybdenum	0.00050	0.0025	0.0015	mg/L	0.021		0.0240		13%	
Selenium	0.00050	0.00125	0.0009	mg/L	0.0014		0.0005	U	NC	Not Applicable
Thallium	0.00010	0.0025	0.0013	mg/L	0.00055		0.0005	U	NC	
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Ammonia	0.050	0.2	0.13	mg/L	0.045	J	0.05	U	NC	
Alkalinity as CaCO3	6.0	20	13	mg/L	150		164		9%	
Bicarbonate Alkalinity	6.0	20	13	mg/L	150		164		9%	
Carbonate Alkalinity	6.0	20	13	mg/L	6.0	U	2	U	NC	≤ Average RL
Hydroxide Alkalinity	6.0	20	13	mg/L	6.0	U	2	U	NC	≤ Average RL
Total Dissolved Solids	100	200	150	mg/L	8,600		8,620		0%	
pH	1.7	0.1	0.90	SU	7.6		8.0		5%	
Iron, Dissolved	0.10	0.75	0.43	mg/L	0.13		0.3	U	NC	≤ Average RL
Manganese, Dissolved	0.010	0.25	0.13	mg/L	2.3		2.44		6%	
Arsenic, Dissolved	0.00050	0.005	0.0028	mg/L	0.00093		0.001	U	NC	
Cobalt, Dissolved	0.00050	0.00125	0.00088	mg/L	0.057		0.0657		14%	
Dissolved Organic Carbon	0.50	5	2.8	mg/L	1.1		1.1	J	0%	
Samples CH-CCR-BAP-0422 and CH-CCR-SS07-0422										
Chloride	400	100	250	mg/L	1,700		1,700		0%	
Fluoride	0.80	0.35	0.58	mg/L	3.5		3.21		9%	
Nitrate/Nitrite	0.25	0.1	0.18	mg/L	0.25	U	0.1	U	NC	≤ Average RL
Sulfate	400	100	250	mg/L	2,700		2,640		2%	
Beryllium	0.0010	0.00125	0.0011	mg/L	0.0010	U	0.00125	U	NC	
Lithium	0.020	0.2	0.11	mg/L	0.16		0.213		28%	
Boron	0.050	0.5	0.28	mg/L	3.1		3.61		15%	
Calcium	2.0	2.5	2.3	mg/L	530		688		26%	
Iron	0.10	0.75	0.43	mg/L	0.34		0.75	U	NC	≤ Average RL
Magnesium	2.0	5	3.5	mg/L	270		232		15%	
Manganese	0.010	0.25	0.13	mg/L	0.060		1.24		182%	Interlaboratory Imprecision
Potassium	0.50	5	2.8	mg/L	25		15.4		48%	Interlaboratory Imprecision
Sodium	1.0	5	3.0	mg/L	1,200		1,550		25%	
Antimony	0.0010	0.01	0.0055	mg/L	0.00015		0.00202	J	172%	≤ Average RL
Arsenic	0.00050	0.005	0.0028	mg/L	0.011		0.0233		72%	Interlaboratory Imprecision
Barium	0.00050	0.0125	0.0065	mg/L	0.012		0.275		183%	Interlaboratory Imprecision
Cadmium	0.00010	0.00125	0.00068	mg/L	0.00009		0.00125	U	NC	Not Applicable
Chromium	0.0010	0.01	0.0055	mg/L	0.011		0.01	U	NC	
Cobalt	0.00050	0.00125	0.00088	mg/L	0.003		0.00309		3%	

Table 8
Cholla Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Lead	0.00050	0.0025	0.0015	mg/L	0.0018		0.0025	U	NC	≤ Average RL
Molybdenum	0.00050	0.0025	0.0015	mg/L	0.036		0.0335		7%	
Selenium	0.00050	0.00125	0.00088	mg/L	0.00050	U	0.0297		NC	Interlaboratory Imprecision
Thallium	0.00010	0.0025	0.0013	mg/L	0.00010	U	0.0025	U	NC	Not Applicable
Ammonia	0.050	0.2	0.13	mg/L	0.050	U	0.2	U	NC	Not Applicable
Alkalinity as CaCO3	6.0	20	13	mg/L	170		171		1%	
Bicarbonate Alkalinity	6.0	20	13	mg/L	160		159		1%	
Carbonate Alkalinity	6.0	20	13	mg/L	7.3		12.1	J	49%	≤ Average RL
Hydroxide Alkalinity	6.0	20	13	mg/L	6.0	U	20	U	NC	Not Applicable
Total Dissolved Solids	100	80	90	mg/L	6,500		6,640		2%	
pH	1.7	0.1	0.90	SU	8.4		8.4		0%	
Total Organic Carbon	0.50	5	2.8	mg/L	2.5		2.6	J	4%	
Iron, Dissolved	0.10	0.75	0.43	mg/L	0.037	J	0.75	U	NC	Not Applicable
Manganese, Dissolved	0.010	0.25	0.13	mg/L	0.049		0.25	U	NC	Not Applicable
Arsenic, Dissolved	0.00050	0.005	0.0028	mg/L	0.022		0.0171		25%	
Cobalt, Dissolved	0.00050	0.00125	0.00088	mg/L	0.00059		0.00191		106%	Interlaboratory Imprecision
Dissolved Organic Carbon	0.50	5	2.8	mg/L	2.4		2.5	J	4%	
Samples CH-CCR-Petroglyph-0422 and CH-CCR-SS08-0422										
Chloride	400	100	250	mg/L	2,200		2,160		2%	
Fluoride	0.80	0.35	0.58	mg/L	3.4		3.21		6%	
Nitrate/Nitrite	0.25	0.1	0.18	mg/L	0.29		0.294		1%	
Sulfate	400	100	250	mg/L	3,100		3,010		3%	
Beryllium	0.0010	0.00125	0.0011	mg/L	0.0010	U	0.00125	U	NC	
Lithium	0.020	0.2	0.11	mg/L	0.20		0.165	J	19%	
Boron	0.050	0.5	0.28	mg/L	3.7		2.94		23%	
Calcium	2.0	2.5	2.3	mg/L	680		521		26%	
Iron	0.10	0.75	0.43	mg/L	0.059		0.75	U	NC	Not Applicable
Magnesium	2.0	5	3.5	mg/L	240		249		4%	
Manganese	0.010	0.25	0.13	mg/L	1.2		0.078	J	176%	Interlaboratory Imprecision
Potassium	0.50	5	2.8	mg/L	15		23.8		45%	Interlaboratory Imprecision
Sodium	2.5	5	3.8	mg/L	1,500		1,240		19%	
Antimony	0.0010	0.01	0.0055	mg/L	0.0010	U	0.01	U	NC	Not Applicable
Arsenic	0.00050	0.005	0.0028	mg/L	0.0032		0.00197	J	48%	≤ Average RL
Barium	0.00050	0.0125	0.0065	mg/L	0.0056		0.00699	J	22%	
Cadmium	0.00010	0.00125	0.00068	mg/L	0.00016		0.00125	U	NC	Not Applicable
Chromium	0.0010	0.01	0.0055	mg/L	0.00068	J	0.01	U	NC	Not Applicable
Cobalt	0.00050	0.00125	0.00088	mg/L	0.017		0.0225		28%	
Lead	0.00050	0.0025	0.0015	mg/L	0.00050		0.0025	U	NC	Not Applicable
Molybdenum	0.00050	0.0025	0.0015	mg/L	0.023		0.0274		17%	

Table 8
Cholla Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Selenium	0.00050	0.00125	0.00088	mg/L	0.00093		0.00125	U	NC	
Thallium	0.00010	0.0025	0.0013	mg/L	0.000025	J	0.0025	U	NC	Not Applicable
Ammonia	0.050	0.2	0.13	mg/L	0.056		0.2	U	NC	Not Applicable
Alkalinity as CaCO3	6.0	20	13	mg/L	78		81.7		5%	
Bicarbonate Alkalinity	6.0	20	13	mg/L	78		81.7		5%	
Carbonate Alkalinity	6.0	20	13	mg/L	6.0	U	20	U	NC	Not Applicable
Hydroxide Alkalinity	6.0	20	13	mg/L	6.0	U	20	U	NC	Not Applicable
Total Dissolved Solids	100	200	150	mg/L	7,600		7,930		4%	
pH	1.7	0.1	0.90	SU	7.5		8		6%	
Total Organic Carbon	0.50	5	2.8	mg/L	1.0		5	U	NC	Not Applicable
Iron, Dissolved	0.10	0.75	0.43	mg/L	0.035		0.75	U	NC	Not Applicable
Manganese, Dissolved	0.010	0.25	0.13	mg/L	1.1		1.16		5%	
Arsenic, Dissolved	0.00050	0.005	0.00275	mg/L	0.0032		0.00163	J	65%	≤ Average RL
Cobalt, Dissolved	0.00050	0.00125	0.000875	mg/L	0.018		0.018		0%	
Dissolved Organic Carbon	0.50	5	2.75	mg/L	1.0		5	U	NC	Not Applicable
Samples CH-CCR-M63A-0422 and CH-CCR-SS09-0422										
Chloride	40	20	30	mg/L	420		406		3%	
Fluoride	0.80	0.35	0.58	mg/L	0.22	J	0.25	J	13%	
Sulfate	40	20	30	mg/L	760		729		4%	
Beryllium	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.00008	U	NC	Not Applicable
Lithium	0.020	0.04	0.030	mg/L	0.091		0.0805		12%	
Boron	0.050	0.03	0.04	mg/L	0.26		0.215		19%	
Calcium	2.0	0.5	1.3	mg/L	190		182		4%	
Antimony	0.0010	0.002	0.0015	mg/L	0.000080	J	0.0004	U	NC	≤ Average RL
Arsenic	0.00050	0.001	0.00075	mg/L	0.0011		0.00081	J	30%	≤ Average RL
Barium	0.00050	0.0025	0.0015	mg/L	0.025		0.0256		2%	
Cadmium	0.00010	0.00025	0.00018	mg/L	0.00010	U	0.00005	U	NC	≤ Average RL
Chromium	0.0010	0.002	0.0015	mg/L	0.0010	U	0.0005	U	NC	≤ Average RL
Cobalt	0.00050	0.00025	0.00038	mg/L	0.00073		0.00161		75%	Interlaboratory Imprecision
Lead	0.00050	0.0005	0.00050	mg/L	0.00050	U	0.0001	U	NC	≤ Average RL
Molybdenum	0.00050	0.0005	0.00050	mg/L	0.0027		0.0025		8%	
Selenium	0.00050	0.00025	0.00038	mg/L	0.0021		0.00212		1%	
Thallium	0.00010	0.0005	0.00030	mg/L	0.000060	J	0.0001	U	NC	≤ Average RL
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Total Dissolved Solids	20	40	30	mg/L	1,900		1,910		1%	
pH	1.7	0.1	0.90	SU	7.4		8.2		10%	
Samples CH-CCR-W123R-0422 and CH-CCR-SS10-0422										
Chloride	400	200	300	mg/L	15,000		5,460		93%	Interlaboratory Imprecision
Fluoride	0.80	0.35	0.58	mg/L	5.9		5.28		11%	

Table 8
Cholla Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Nitrate/Nitrite	0.25	0.1	0.18	mg/L	0.25	U	0.02	U	NC	Not Applicable
Sulfate	400	100	250	mg/L	12,000		3,700		106%	Interlaboratory Imprecision
Beryllium	0.0010	0.0025	0.0018	mg/L	0.0010	U	0.0008	U	NC	
Lithium	0.020	0.4	0.21	mg/L	0.52		0.459		12%	
Boron	0.050	1	0.53	mg/L	43		36.2		17%	
Calcium	2.0	5	3.5	mg/L	800		720		11%	
Antimony	0.0010	0.02	0.011	mg/L	0.000080	J	0.004	U	NC	≤ Average RL
Arsenic	0.00050	0.01	0.0053	mg/L	0.0058		0.00415	J	33%	≤ Average RL
Arsenic, Dissolved	0.00050	0.01	0.0053	mg/L	0.0048		0.00336	J	35%	≤ Average RL
Barium	0.00050	0.025	0.013	mg/L	0.0097		0.00979	J	1%	
Cadmium	0.00010	0.0025	0.0013	mg/L	0.00010	U	0.0005	U	NC	≤ Average RL
Chromium	0.0010	0.02	0.011	mg/L	0.0011		0.005	U	NC	≤ Average RL
Cobalt	0.00050	0.0025	0.0015	mg/L	0.0037		0.00711		63%	Interlaboratory Imprecision
Cobalt, Dissolved	0.00050	0.0025	0.00150	mg/L	0.0041		0.00745		58%	Interlaboratory Imprecision
Iron	0.10	1.5	0.80	mg/L	0.053	J	0.6	U	NC	≤ Average RL
Iron, Dissolved	0.10	1.5	0.80	mg/L	0.043	J	0.6	U	NC	≤ Average RL
Lead	0.00050	0.005	0.0028	mg/L	0.00050	U	0.001	U	NC	≤ Average RL
Magnesium	2.0	10	6.0	mg/L	310		255		19%	
Manganese	0.010	0.5	0.26	mg/L	2.8		2.63		6%	
Manganese, Dissolved	0.010	0.5	0.26	mg/L	2.70000		2.8		4%	
Molybdenum	0.00050	0.005	0.0028	mg/L	0.21		0.209		0%	
Potassium	0.50	10	5.3	mg/L	37		28.6		26%	
Selenium	0.00050	0.0025	0.0015	mg/L	0.0014		0.001	U	NC	≤ Average RL
Sodium	5.0	10	7.5	mg/L	3,700		3,540		4%	
Thallium	0.00010	0.005	0.0026	mg/L	0.00023		0.001	U	NC	≤ Average RL
Ammonia	0.050	0.2	0.13	mg/L	1.3		1.22		6%	
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Alkalinity as CaCO3	6.0	20	13	mg/L	54		51		6%	
Bicarbonate Alkalinity	6.0	20	13	mg/L	54		51		6%	
Carbonate Alkalinity	6.0	20	13	mg/L	6.0	U	2	U	NC	≤ Average RL
Hydroxide Alkalinity	6.0	20	13	mg/L	6.0	U	2	U	NC	≤ Average RL
Total Dissolved Solids	200	200	200	mg/L	16,000		14,000		13%	
pH	1.7	0.1	0.90	SU	7.7		7.6		1%	
Dissolved Organic Carbon	0.50	5	2.8	mg/L	2.1		2	J	5%	
Samples CH-CCR-FAP-0422 and CH-CCR-SS11-0422										
Chloride	2,000	2,000	2,000	mg/L	49,000		48,400		1%	
Fluoride	80	250	165	mg/L	120		69.6		53%	≤ Average RL
Nitrate/Nitrite	2.5	0.1	1.3	mg/L	2.5	U	0.1	U	NC	Not Applicable
Sulfate	2,000	2,000	2,000	mg/L	46,000		46,200		0%	

Table 8
Cholla Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Beryllium	0.0050	0.025	0.015	mg/L	0.0098		0.0106	J	8%	
Lithium	0.020	4	2.0	mg/L	9.3		12.3		28%	
Boron	0.50	10	5.3	mg/L	610		632		4%	
Calcium	10	50	30	mg/L	710		1,340		61%	Interlaboratory Imprecision
Iron	0.50	15	7.8	mg/L	1.2		15	U	NC	Not Applicable
Magnesium	40	100	70	mg/L	12,000		11,300		6%	
Manganese	0.050	5	2.5	mg/L	27		29.6		9%	
Potassium	2.5	100	51	mg/L	650		621		5%	
Sodium	25	100	63	mg/L	33,000		34,300		4%	
Antimony	0.010	0.2	0.11	mg/L	0.061		0.0657	J	7%	
Arsenic	0.0050	0.1	0.053	mg/L	0.60		0.75		22%	
Barium	0.0050	0.25	0.13	mg/L	0.14		0.151	J	8%	
Cadmium	0.0010	0.025	0.013	mg/L	0.00051	J	0.025	U	NC	Not Applicable
Chromium	0.010	0.2	0.11	mg/L	0.012		0.2	U	NC	Not Applicable
Cobalt	0.0050	0.025	0.015	mg/L	0.021		0.0329		44%	≤ Average RL
Lead	0.0050	0.05	0.028	mg/L	0.0050	U	0.05	U	NC	Not Applicable
Molybdenum	0.0050	0.05	0.028	mg/L	0.74		0.826		11%	
Selenium	0.0050	0.025	0.015	mg/L	0.064		0.614		162%	Interlaboratory Imprecision
Thallium	0.0010	0.05	0.026	mg/L	0.00055	J	0.05	U	NC	Not Applicable
Mercury	0.00020	0.005	0.0026	mg/L	0.0002	U	0.005	U	NC	Not Applicable
Ammonia	0.050	4	2.0	mg/L	0.041		4	U	NC	Not Applicable
Alkalinity as CaCO3	6.0	20	13	mg/L	230		217		6%	
Bicarbonate Alkalinity	6.0	20	13	mg/L	230		217		6%	
Carbonate Alkalinity	6.0	20	13	mg/L	6.0	U	20	U	NC	Not Applicable
Hydroxide Alkalinity	6.0	20	13	mg/L	6.0	U	20	U	NC	Not Applicable
Total Dissolved Solids	1,000	2,000	1,500	mg/L	100,000		149,000		39%	Interlaboratory Imprecision
pH	1.7	0.1	0.90	SU	6.5		6.4		2%	
Total Organic Carbon	5.0	250	128	mg/L	86		87.5		2%	
Iron, Dissolved	0.50	15	7.8	mg/L	1.1		15	U	NC	Not Applicable
Manganese, Dissolved	0.050	5	2.5	mg/L	26		25.2		3%	
Arsenic, Dissolved	0.0050	0.1	0.053	mg/L	0.58		0.478		19%	
Cobalt, Dissolved	0.0050	0.025	0.015	mg/L	0.021		0.0254		19%	
Dissolved Organic Carbon	2.0	5	3.5	mg/L	140		79.6		55%	Interlaboratory Imprecision
Samples CH-CCR-FD02-0422 and CH-CCR-FD07-0422										
Chloride	400	20	210	mg/L	580		622		7%	
Fluoride	0.80	0.35	0.58	mg/L	0.40	J	0.58		37%	≤ Average RL
Sulfate	100	20	60	mg/L	250		284		13%	
Boron	0.050	0.1	0.075	mg/L	0.15		0.163		8%	
Lithium	0.020	0.04	0.030	mg/L	0.033		0.0349		6%	

Table 8
Cholla Power Plant
Laboratory Comparison

Analyte	Reporting Limits				Primary Result (Test America)		Split Result (ACZ)		RPD	Notes
	Test America	ACZ	Average							
Calcium	2.0	0.5	1.3	mg/L	110		109		1%	
Beryllium	0.0010	0.00025	0.00063	mg/L	0.0010	U	0.00008	U	NC	Not Applicable
Antimony	0.0010	0.002	0.0015	mg/L	0.0010	U	0.0004	U	NC	≤ Average RL
Arsenic	0.00050	0.001	0.00075	mg/L	0.00050	U	0.0002	U	NC	≤ Average RL
Barium	0.00050	0.0025	0.0015	mg/L	0.072		0.0722		0%	
Cadmium	0.00010	0.00025	0.00018	mg/L	0.00010	U	0.00005	U	NC	≤ Average RL
Chromium	0.0010	0.002	0.0015	mg/L	0.0048		0.00801		50%	Interlaboratory Imprecision
Cobalt	0.00050	0.00025	0.00038	mg/L	0.00013	J	0.000489		116%	≤ Average RL
Lead	0.00050	0.0005	0.00050	mg/L	0.00050	U	0.0001	U	NC	≤ Average RL
Molybdenum	0.00050	0.0005	0.00050	mg/L	0.0034		0.00332		2%	
Selenium	0.00050	0.00025	0.00038	mg/L	0.000086	J	0.0001	U	NC	
Thallium	0.00010	0.0005	0.00030	mg/L	0.00010	U	0.0001	U	NC	
Mercury	0.00020	0.001	0.00060	mg/L	0.00020	U	0.0002	U	NC	
Total Dissolved Solids	20	40	30	mg/L	1,500		1,560		4%	
pH	1.7	0.1	0.90	SU	8.0		8.4		5%	

Notes:

ACZ - ACZ Laboratories, Inc.

J - concentration is an estimation

mg/L - milligrams per liter

NC = not calculable

RL - reporting limit

RPD - relative percent difference

Test America - TestAmerica Laboratories, Inc.

U - not detected above the laboratory detection limit

% - percent

ATTACHMENT

A

Eurofins Environment Testing America Analytical Reports

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ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-182959-1
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
5/5/2022 4:17:48 PM

Rachel Sester, Project Manager I
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LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Metals

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-182959-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-182959-1

Comments
No additional comments.

Receipt
The samples were received on 4/22/2022 3:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.9º C.

Receipt Exceptions
The containers received in Denver were received 1/4 full.

CH-CCR-CR1R-0422 (550-182959-1), CH-CCR-CR1R-0422 (550-182959-1[MS]), CH-CCR-CR1R-0422 (550-182959-1[MSD]), CH-CCR-FD02-0422 (550-182959-2), CH-CCR-FAP-0422 (550-182959-3), CH-CCR-GeronimoC-0422 (550-182959-5), CH-CCR-GeronimoD-0422 (550-182959-7), CH-CCR-HuntB-0422 (550-182959-9), CH-CCR-BAP-0422 (550-182959-11), CH-CCR-BAPTD-0422 (550-182959-13), CH-CCR-Petroglyph-0422 (550-182959-15) and CH-CCR-TannerWash-0422 (550-182959-17)

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-182959-1	CH-CCR-CR1R-0422	Water	04/22/22 09:05	04/22/22 15:48
550-182959-2	CH-CCR-FD02-0422	Water	04/22/22 09:05	04/22/22 15:48

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Client Sample ID: CH-CCR-CR1R-0422 — Lab Sample ID: 550-182959-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	580	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.38	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	240	D2	100	21	mg/L	50		300.0	Total/NA
Boron	0.15		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.033		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	100		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000051	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Barium	0.074		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000035	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0035		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00014	E4	0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0031		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00011	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000098	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1600		20	20	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD02-0422 — Lab Sample ID: 550-182959-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	580	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.40	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	250	D2	100	21	mg/L	50		300.0	Total/NA
Boron	0.15		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.033		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	110		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.072		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.0048		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00013	E4	0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0034		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.000086	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000023	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1500		20	20	mg/L	1		SM 2540C	Total/NA
pH	8.0	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Client Sample ID: CH-CCR-CR1R-0422

Lab Sample ID: 550-182959-1
Date Collected: 04/22/22 09:05
Matrix: Water
Date Received: 04/22/22 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	580	D2	400	100	mg/L			04/25/22 21:09	200
Fluoride	0.38	D1 E4	0.80	0.095	mg/L			04/25/22 20:14	2
Sulfate	240	D2	100	21	mg/L			04/27/22 00:04	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.15		0.050	0.0025	mg/L		04/25/22 09:14	05/02/22 12:17	1
Lithium	0.033		0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 11:09	1
Calcium	100		2.0	0.013	mg/L		04/25/22 09:14	04/27/22 19:36	1
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 19:36	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000051	E4	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 20:36	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 20:36	1
Barium	0.074		0.00050	0.00026	mg/L		04/25/22 06:47	04/28/22 16:17	1
Cadmium	0.000035	E4	0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 20:36	1
Chromium	0.0035		0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 20:36	1
Cobalt	0.00014	E4	0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 20:36	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 20:36	1
Molybdenum	0.0031		0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 20:36	1
Selenium	0.00011	E4	0.00050	0.000074	mg/L		04/25/22 06:47	04/30/22 12:30	1
Thallium	0.000098	E4	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 20:36	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1600		20	20	mg/L			04/25/22 13:55	1
pH	7.8	H5	1.7	1.7	SU			04/26/22 20:21	1
Temperature	13.5	H5	0.1	0.1	Degrees C			04/26/22 20:21	1

Client Sample ID: CH-CCR-FD02-0422

Lab Sample ID: 550-182959-2
Date Collected: 04/22/22 09:05
Matrix: Water
Date Received: 04/22/22 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	580	D2	400	100	mg/L			04/25/22 22:23	200
Fluoride	0.40	D1 E4	0.80	0.095	mg/L			04/25/22 22:05	2
Sulfate	250	D2	100	21	mg/L			04/27/22 01:00	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.15		0.050	0.0025	mg/L		04/25/22 09:14	05/02/22 12:20	1
Lithium	0.033		0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 11:21	1
Calcium	110		2.0	0.013	mg/L		04/25/22 09:14	04/27/22 19:39	1
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 19:39	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Client Sample ID: CH-CCR-FD02-0422

Lab Sample ID: 550-182959-2

Date Collected: 04/22/22 09:05
Matrix: Water
Date Received: 04/22/22 15:48

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 20:38	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 20:38	1
Barium	**0.072**		0.00050	0.00026	mg/L		04/25/22 06:47	04/28/22 16:20	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 20:38	1
Chromium	**0.0048**		0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 20:38	1
Cobalt	**0.00013**	**E4**	0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 20:38	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 20:38	1
Molybdenum	**0.0034**		0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 20:38	1
Selenium	**0.000086**	**E4**	0.00050	0.000074	mg/L		04/25/22 06:47	04/30/22 12:32	1
Thallium	**0.000023**	**E4**	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 20:38	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1500**		20	20	mg/L			04/25/22 13:55	1
pH	**8.0**	**H5**	1.7	1.7	SU			04/26/22 20:21	1
Temperature	**12.3**	**H5**	0.1	0.1	Degrees C			04/26/22 20:21	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-272515/1029 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/25/22 19:19	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/25/22 19:19	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/25/22 19:19	1

Lab Sample ID: LCS 550-272515/30 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.3		mg/L		106	90 - 110
Fluoride	4.00	4.09		mg/L		102	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-272515/31 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.3		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-182959-1 MS — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.38	E4 D1	8.00	8.71	D1	mg/L		104	80 - 120

Lab Sample ID: 550-182959-1 MS — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	580	D2	4000	5010	D2	mg/L		111	80 - 120

Lab Sample ID: 550-182959-1 MSD — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.38	E4 D1	8.00	8.72	D1	mg/L		104	80 - 120	0	20

Lab Sample ID: 550-182959-1 MSD — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	580	D2	4000	5000	D2	mg/L		110	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-272619/1042 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272619

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/26/22 23:09	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/26/22 23:09	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/26/22 23:09	1

Lab Sample ID: LCS 550-272619/43 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272619

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.3		mg/L		107	90 - 110
Fluoride	4.00	4.15		mg/L		104	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-272619/44 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272619

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.3		mg/L		107	90 - 110	0	20
Fluoride	4.00	4.17		mg/L		104	90 - 110	1	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-182959-1 MS — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	240	D2	1000	1300	D2	mg/L		106	80 - 120

Lab Sample ID: 550-182959-1 MSD — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272619

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	240	D2	1000	1300	D2	mg/L		106	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-272450/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND	E8	2.0	0.013	mg/L		04/25/22 09:14	04/27/22 19:23	1
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 19:23	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-272450/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273125 — **Prep Batch: 272450**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		04/25/22 09:14	05/02/22 12:04	1

Lab Sample ID: LCS 550-272450/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	21.0	19.8		mg/L		94	85 - 115
Beryllium	1.00	0.942		mg/L		94	85 - 115

Lab Sample ID: LCS 550-272450/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273125 — **Prep Batch: 272450**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.987		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-272450/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	21.0	20.8		mg/L		99	85 - 115	5	20
Beryllium	1.00	0.993		mg/L		99	85 - 115	5	20

Lab Sample ID: LCSD 550-272450/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273125 — **Prep Batch: 272450**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	1.02		mg/L		102	85 - 115	3	20

Lab Sample ID: 550-182959-1 MS — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	100		21.0	122	M3	mg/L		90	70 - 130
Beryllium	ND	E8	1.00	1.01		mg/L		101	70 - 130

Lab Sample ID: 550-182959-1 MS — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273125 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.15		1.00	1.17		mg/L		103	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-182959-1 MSD — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	100		21.0	122	M3	mg/L		90	70 - 130	0	20
Beryllium	ND	E8	1.00	1.02		mg/L		102	70 - 130	1	20

Lab Sample ID: 550-182959-1 MSD — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273125 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.15		1.00	1.20		mg/L		106	70 - 130	2	20

Lab Sample ID: MB 280-573141/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 10:16	1

Lab Sample ID: LCS 280-573141/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.986		mg/L		99	90 - 112

Lab Sample ID: 550-182959-1 MS — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.033		1.00	1.03		mg/L		100	70 - 130

Lab Sample ID: 550-182959-1 MSD — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.033		1.00	1.04		mg/L		100	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-272434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 20:25	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 20:25	1
Cadmium	0.0000240	E4	0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 20:25	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 20:25	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 20:25	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-272434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND	E8	0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 20:25	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 20:25	1
Thallium	0.0000180	E4	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 20:25	1

Lab Sample ID: MB 550-272434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND	E8	0.00050	0.00026	mg/L		04/25/22 06:47	04/28/22 16:07	1

Lab Sample ID: MB 550-272434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	E8	0.00050	0.000074	mg/L		04/25/22 06:47	04/30/22 12:20	1

Lab Sample ID: LCS 550-272434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0962		mg/L		96	85 - 115
Arsenic	0.100	0.0956		mg/L		96	85 - 115
Cadmium	0.100	0.0971		mg/L		97	85 - 115
Chromium	0.100	0.100		mg/L		100	85 - 115
Cobalt	0.100	0.105		mg/L		105	85 - 115
Lead	0.100	0.0978		mg/L		98	85 - 115
Molybdenum	0.100	0.100		mg/L		100	85 - 115
Thallium	0.100	0.0958		mg/L		96	85 - 115

Lab Sample ID: LCS 550-272434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.106		mg/L		106	85 - 115

Lab Sample ID: LCS 550-272434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.0978		mg/L		98	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-272434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0939		mg/L		94	85 - 115	2	20
Arsenic	0.100	0.0953		mg/L		95	85 - 115	0	20
Cadmium	0.100	0.0949		mg/L		95	85 - 115	2	20
Chromium	0.100	0.0988		mg/L		99	85 - 115	2	20
Cobalt	0.100	0.109		mg/L		109	85 - 115	4	20
Lead	0.100	0.0950		mg/L		95	85 - 115	3	20
Molybdenum	0.100	0.0965		mg/L		96	85 - 115	4	20
Thallium	0.100	0.0920		mg/L		92	85 - 115	4	20

Lab Sample ID: LCSD 550-272434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.100	0.111		mg/L		111	85 - 115	5	20

Lab Sample ID: LCSD 550-272434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.100		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-182959-1 MS — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.000051	E4	0.100	0.0997		mg/L		100	70 - 130
Arsenic	ND	E8	0.100	0.0999		mg/L		100	70 - 130
Cadmium	0.000035	E4	0.100	0.0940		mg/L		94	70 - 130
Chromium	0.0035		0.100	0.101		mg/L		97	70 - 130
Cobalt	0.00014	E4	0.100	0.101		mg/L		101	70 - 130
Lead	ND	E8	0.100	0.0898		mg/L		90	70 - 130
Molybdenum	0.0031		0.100	0.108		mg/L		104	70 - 130
Thallium	0.000098	E4	0.100	0.0898		mg/L		90	70 - 130

Lab Sample ID: 550-182959-1 MS — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.074		0.100	0.190		mg/L		116	70 - 130

Lab Sample ID: 550-182959-1 MS — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.00011	E4	0.100	0.100		mg/L		100	70 - 130

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: 550-182959-1 MSD — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.000051	E4	0.100	0.0931		mg/L		93	70 - 130	7	20
Arsenic	ND	E8	0.100	0.0975		mg/L		98	70 - 130	2	20
Cadmium	0.000035	E4	0.100	0.0876		mg/L		88	70 - 130	7	20
Chromium	0.0035		0.100	0.0968		mg/L		93	70 - 130	4	20
Cobalt	0.00014	E4	0.100	0.0986		mg/L		98	70 - 130	3	20
Lead	ND	E8	0.100	0.0899		mg/L		90	70 - 130	0	20
Molybdenum	0.0031		0.100	0.103		mg/L		99	70 - 130	5	20
Thallium	0.000098	E4	0.100	0.0895		mg/L		89	70 - 130	0	20

Lab Sample ID: 550-182959-1 MSD — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.074		0.100	0.178		mg/L		105	70 - 130	6	20

Lab Sample ID: 550-182959-1 MSD — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.00011	E4	0.100	0.0987		mg/L		99	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-272719/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:10	1

Lab Sample ID: LCS 550-272719/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg			0.00500	0.00492		mg/L		98	85 - 115		

Lab Sample ID: LCSD 550-272719/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00495		mg/L		99	85 - 115	1	20

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-182959-1 MS — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hg	ND	E8	0.00500	0.00558		mg/L		112	70 - 130

Lab Sample ID: 550-182959-1 MSD — **Client Sample ID: CH-CCR-CR1R-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00572		mg/L		114	70 - 130	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-272456/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272456

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/25/22 13:55	1

Lab Sample ID: LCS 550-272456/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272456

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	990		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-272456/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272456

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	994		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-182712-D-23 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272456

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	6600	D2	6470	D2	mg/L		2	10

Lab Sample ID: 550-182961-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272456

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	4200	D2	3990	D2	mg/L		4	10

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-272627/1
Matrix: Water
Analysis Batch: 272627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.9		SU		98.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-272627/13
Matrix: Water
Analysis Batch: 272627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.9		SU		98.7	98.5 - 101.5		

Lab Sample ID: 550-182959-1 DU
Matrix: Water
Analysis Batch: 272627

Client Sample ID: CH-CCR-CR1R-0422
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.8	H5		7.8	H5	SU				0	5
Temperature	13.5	H5		12.7	H5	Degrees C				6	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

HPLC/IC

Analysis Batch: 272515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	300.0	
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	300.0	
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	300.0	
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	300.0	
MB 550-272515/1029	Method Blank	Total/NA	Water	300.0	
LCS 550-272515/30	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-272515/31	Lab Control Sample Dup	Total/NA	Water	300.0	
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	300.0	
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	300.0	
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	300.0	
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	300.0	

Analysis Batch: 272619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	300.0	
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	300.0	
MB 550-272619/1042	Method Blank	Total/NA	Water	300.0	
LCS 550-272619/43	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-272619/44	Lab Control Sample Dup	Total/NA	Water	300.0	
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	300.0	
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	300.0	

Metals

Prep Batch: 272434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	200.8	
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	200.8	
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	200.8	
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	200.8	

Prep Batch: 272450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	200.7	
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	200.7	
MB 550-272450/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-272450/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-272450/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	200.7	
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	200.7	

Prep Batch: 272719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	245.1	
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	245.1	
MB 550-272719/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-272719/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-272719/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 272719 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	245.1	
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	245.1	

Analysis Batch: 272735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	245.1	272719
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	245.1	272719
MB 550-272719/1-A	Method Blank	Total/NA	Water	245.1	272719
LCS 550-272719/2-A	Lab Control Sample	Total/NA	Water	245.1	272719
LCSD 550-272719/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	272719
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	245.1	272719
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	245.1	272719

Analysis Batch: 272751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	200.8 LL	272434
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	200.8 LL	272434
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8 LL	272434
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272434
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272434
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	200.8 LL	272434
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	200.8 LL	272434

Analysis Batch: 272855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	200.8 LL	272434
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	200.8 LL	272434
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8 LL	272434
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272434
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272434
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	200.8 LL	272434
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	200.8 LL	272434

Analysis Batch: 272866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	200.7 Rev 4.4	272450
MB 550-272450/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272450
LCS 550-272450/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272450
LCSD 550-272450/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	200.7 Rev 4.4	272450

Analysis Batch: 272988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	200.8 LL	272434
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	200.8 LL	272434
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8 LL	272434
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272434
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272434
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	200.8 LL	272434

Metals (Continued)

Analysis Batch: 272988 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	200.8 LL	272434

Analysis Batch: 273125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	200.7 Rev 4.4	272450
MB 550-272450/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272450
LCS 550-272450/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272450
LCSD 550-272450/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	200.7 Rev 4.4	272450

Prep Batch: 573141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	200.7	
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	200.7	
MB 280-573141/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-573141/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	200.7	
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	200.7	

Analysis Batch: 573293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	200.7 Rev 4.4	573141
MB 280-573141/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	573141
LCS 280-573141/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-1 MS	CH-CCR-CR1R-0422	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-1 MSD	CH-CCR-CR1R-0422	Total/NA	Water	200.7 Rev 4.4	573141

General Chemistry

Analysis Batch: 272456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	SM 2540C	
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	SM 2540C	
MB 550-272456/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-272456/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-272456/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-182712-D-23 DU	Duplicate	Total/NA	Water	SM 2540C	
550-182961-D-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 272627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-1	CH-CCR-CR1R-0422	Total/NA	Water	SM 4500 H+ B	
550-182959-2	CH-CCR-FD02-0422	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272627/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272627/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-182959-1 DU	CH-CCR-CR1R-0422	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Client Sample ID: CH-CCR-CR1R-0422

Lab Sample ID: 550-182959-1
Matrix: Water

Date Collected: 04/22/22 09:05
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	272515	04/25/22 20:14	AS1	TAL PHX
Total/NA	Analysis	300.0		200	272515	04/25/22 21:09	AS1	TAL PHX
Total/NA	Analysis	300.0		50	272619	04/27/22 00:04	AS1	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	272866	04/27/22 19:36	MGM	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273125	05/02/22 12:17	MGM	TAL PHX
Total/NA	Prep	200.7			573141	04/27/22 10:56	MB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	573293	04/28/22 11:09	MAB	TAL DEN
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272751	04/27/22 20:36	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272855	04/28/22 16:17	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272988	04/30/22 12:30	ARE	TAL PHX
Total/NA	Prep	245.1			272719	04/27/22 17:18	SRR	TAL PHX
Total/NA	Analysis	245.1		1	272735	04/27/22 22:20	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	272456		CHS	TAL PHX
					(Start)	04/25/22 13:55		
					(End)	04/26/22 11:45		
Total/NA	Analysis	SM 4500 H+ B		1	272627	04/26/22 20:21	CXK	TAL PHX

Client Sample ID: CH-CCR-FD02-0422

Lab Sample ID: 550-182959-2
Matrix: Water

Date Collected: 04/22/22 09:05
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	272515	04/25/22 22:05	AS1	TAL PHX
Total/NA	Analysis	300.0		200	272515	04/25/22 22:23	AS1	TAL PHX
Total/NA	Analysis	300.0		50	272619	04/27/22 01:00	AS1	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	272866	04/27/22 19:39	MGM	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273125	05/02/22 12:20	MGM	TAL PHX
Total/NA	Prep	200.7			573141	04/27/22 10:56	MB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	573293	04/28/22 11:21	MAB	TAL DEN
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272751	04/27/22 20:38	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272855	04/28/22 16:20	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272988	04/30/22 12:32	ARE	TAL PHX
Total/NA	Prep	245.1			272719	04/27/22 17:18	SRR	TAL PHX
Total/NA	Analysis	245.1		1	272735	04/27/22 22:22	SRR	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Client Sample ID: CH-CCR-FD02-0422

Date Collected: 04/22/22 09:05
Date Received: 04/22/22 15:48

Lab Sample ID: 550-182959-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	272456		CHS	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	272627	04/26/22 20:21	CXK	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-08-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

182959

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5/5/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 2 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (SEDI)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
CH-CCR-CR1R-0422 -01	4/22/2022	09:05	G	W	2	N		X	X	X	X	X	X	Low Flow
CH-CCR-FD02-0422 -02	4/22/22	09:05	G	W	2	N	N	X	X	X	X	X	X	"
CH-CCR-CR1R-0422-MS -01	4/22/22	09:05	G	W	2	N	N	X	X	X	X	X	X	Low Flow, MS
CH-CCR-CR1R-0422-SD -01	4/22/22	09:05	G	W	2	N	N	X	X	X	X	X	X	Low Flow, MSD
								1	4	1	1	4	4	

550-182959 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.9°C ice CPO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Allen Ramirez	Wood	4/22/22 15:45			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				EGA ONY	4-22-22 1548

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

182959

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 3 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 5310B (TOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li)	SM 2320B (CO3, HCO3 - Alk. as CaCO3)	SM 2320B (HCO3 - Alk. as CaCO3)	Sample Specific Notes:
CH-CCR-FAP-0422 -03 + 04	4/21/22	10:35	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	Surface Water Sample
CH-CCR-GeronimoC-0422 -05 + 06	4/20/22	15:25	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	Seepage Pump Port Sample
CH-CCR-GeronimoD-0422 -07 + 08	4/20/22	15:55	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	"
CH-CCR-HuntB-0422 -09 + 10	4/20/22	14:18	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	"
								1	4	4	4	4	4	4	1	1	2	2	3	3	4	1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.9°C ice CDS

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Adam Ramirez	Wood	4/22/22 15:48			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EEA Dmx	Date/Time: 4-22-22 1548

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

182959

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	3 of 3 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5410B (TOC)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	SM 2320B (CO3, HCO3 - Alk. as CaCO3)	Sample Specific Notes:
CH-CCR-BAP-0422 -11 + 12	4/21/22	13:40	C	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	Surface Water Sample
CH-CCR-BAPTD-0422 -13 + 14	4/21/22	15:50	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	Seepage Pump Port Sample
CH-CCR-Petroglyph-0422 -15 + 16	4/21/2022	14:56	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TannerWash-0422 -17 + 18	4/21/2022	14:15	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	1	1	2	2	3	3	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.9°C ice CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Adam Ramirez		4/22/22 15:48			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EEA [illegible]	Date/Time: 4-22-22 1548

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-33778.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-182959-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 5/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-CR1R-0422 (550-182959-1)	4/22/22	09:05 Arizona		Water			X	1	AZ Sample
CH-CCR-CR1R-0422 (550-182959-1MS)	4/22/22	09:05 Arizona	MS	Water			X	1	AZ Sample
CH-CCR-CR1R-0422 (550-182959-1MSD)	4/22/22	09:05 Arizona	MSD	Water			X	1	AZ Sample
CH-CCR-FD02-0422 (550-182959-2)	4/22/22	09:05 Arizona		Water			X	1	AZ Sample
CH-CCR-FAP-0422 (550-182959-3)	4/21/22	10:35 Arizona		Water			X	1	AZ Sample
CH-CCR-GeronimoC-0422 (550-182959-5)	4/20/22	15:25 Arizona		Water			X	1	AZ Sample
CH-CCR-GeronimoD-0422 (550-182959-7)	4/20/22	15:55 Arizona		Water			X	1	AZ Sample
CH-CCR-HuntB-0422 (550-182959-9)	4/20/22	14:18 Arizona		Water			X	1	AZ Sample
CH-CCR-BAP-0422 (550-182959-11)	4/21/22	13:40 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Eve 04-25-22	Date/Time: 15:40 EET	Company: TSW	Received by: Fedex	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: [signature]	Date/Time: 4/26/22 1050	Company: EMDEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.3 IR12 CF701

Ver: 06/08/2021

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-33778.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-182959-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 5/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:				-		
CH-CCR-BAPTD-0422 (550-182959-13)	4/21/22	15:50 Arizona		Water			X	1	AZ Sample
CH-CCR-Petroglyph-0422 (550-182959-15)	4/21/22	14:56 Arizona		Water			X	1	AZ Sample
CH-CCR-TannerWash-0422 (550-182959-17)	4/21/22	14:15 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible] 04-25-22	15:40	EETSW	Fedex		
FedEx			[illegible]	4/26/22 1050	EFAD EN

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.3 1212-CF+0.1

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-182959-1

Login Number: 182959
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-182959-1

Login Number: 182959
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 04/26/22 06:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-182959-2
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
5/6/2022 5:21:12 PM

Rachel Sester, Project Manager I
(602)659-7615
Rachel.Sester@et.eurofinsus.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
B7	Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above the concentration found in the blank.
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-182959-2

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-182959-2

Comments
No additional comments.

Receipt
The samples were received on 4/22/2022 3:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.9º C.

Receipt Exceptions
The containers received in Denver were received 1/4 full.

CH-CCR-CR1R-0422 (550-182959-1), CH-CCR-CR1R-0422 (550-182959-1[MS]), CH-CCR-CR1R-0422 (550-182959-1[MSD]), CH-CCR-FD02-0422 (550-182959-2), CH-CCR-FAP-0422 (550-182959-3), CH-CCR-GeronimoC-0422 (550-182959-5), CH-CCR-GeronimoD-0422 (550-182959-7), CH-CCR-HuntB-0422 (550-182959-9), CH-CCR-BAP-0422 (550-182959-11), CH-CCR-BAPTD-0422 (550-182959-13), CH-CCR-Petroglyph-0422 (550-182959-15) and CH-CCR-TannerWash-0422 (550-182959-17)

HPLC/IC
Method 300.0: The results for the source sample and the matrix spike / matrix spike duplicate (MS/MSD) associated with analytical batch 550-272515 for Sulfate by method EPA 300.0 could not be reported due to the analyte in the diluted sample exceeding the low end of the instrument calibration range. As such, reanalysis at a lower dilution was required and a result could not be reported for the associated source sample. The results for the batch laboratory control sample / laboratory sample control duplicate (LCS/LCSD) met method acceptance criteria and may be used to verify accuracy and precision. Therefore, the following sample results have been reported and qualified with N1 flags.

CH-CCR-GeronimoC-0422 (550-182959-5), CH-CCR-GeronimoD-0422 (550-182959-7) and CH-CCR-HuntB-0422 (550-182959-9)

Method 300.0: The following samples were diluted for Nitrate Nitrite as N due to the abundance of non-target analytes: CH-CCR-FAP-0422 (550-182959-3), CH-CCR-GeronimoC-0422 (550-182959-5) and CH-CCR-GeronimoD-0422 (550-182959-7). Elevated reporting limits (RLs) have been provided.

Method 300.0: The following sample were diluted for Nitrate Nitrite as N due to the presence of an elevated chloride concentration which co-elutes with the Nitrite peak: CH-CCR-FAP-0422 (550-182959-3), CH-CCR-GeronimoC-0422 (550-182959-5) and CH-CCR-GeronimoD-0422 (550-182959-7). Elevated reporting limits (RLs) have been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-272866 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix: CH-CCR-FAP-0422 (550-182959-3) and CH-CCR-FAP-0422 (550-182959-4). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: CH-CCR-FAP-0422 (550-182959-3), CH-CCR-GeronimoC-0422 (550-182959-5), CH-CCR-GeronimoD-0422 (550-182959-7) and CH-CCR-HuntB-0422 (550-182959-9). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-272972 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The method blank for preparation batch 550-272450 and analytical batch 550-272972 contained Sodium above the

Job ID: 550-182959-2 (Continued)

Laboratory: Eurofins Phoenix (Continued)

reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-272972 contained Sodium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: CH-CCR-FAP-0422 (550-182959-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 550-273518 were outside control limits for DOC. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-182959-3	CH-CCR-FAP-0422	Water	04/21/22 10:35	04/22/22 15:48
550-182959-4	CH-CCR-FAP-0422	Water	04/21/22 10:35	04/22/22 15:48
550-182959-5	CH-CCR-GeronimoC-0422	Water	04/20/22 15:25	04/22/22 15:48
550-182959-6	CH-CCR-GeronimoC-0422	Water	04/20/22 15:25	04/22/22 15:48
550-182959-7	CH-CCR-GeronimoD-0422	Water	04/20/22 15:55	04/22/22 15:48
550-182959-8	CH-CCR-GeronimoD-0422	Water	04/20/22 15:55	04/22/22 15:48
550-182959-9	CH-CCR-HuntB-0422	Water	04/20/22 14:18	04/22/22 15:48
550-182959-10	CH-CCR-HuntB-0422	Water	04/20/22 14:18	04/22/22 15:48

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-FAP-0422 — Lab Sample ID: 550-182959-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	49000	D2	2000	520	mg/L	1000		300.0	Total/NA
Fluoride	120	D1	80	9.5	mg/L	200		300.0	Total/NA
Sulfate	46000	D2	2000	430	mg/L	1000		300.0	Total/NA
Beryllium	0.0098	D1	0.0050	0.00034	mg/L	5		200.7 Rev 4.4	Total/NA
Lithium	9.3		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	610		0.50	0.025	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	710	D1	10	0.065	mg/L	5		200.7 Rev 4.4	Total/NA
Iron	1.2	D1	0.50	0.050	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	12000	D2	40	0.89	mg/L	20		200.7 Rev 4.4	Total/NA
Manganese	27	D1	0.050	0.00096	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	650	D1	2.5	0.85	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	33000	D2	25	1.5	mg/L	50		200.7 Rev 4.4	Total/NA
Antimony	0.061		0.010	0.00043	mg/L	10		200.8 LL	Total/NA
Arsenic	0.60	D1	0.0050	0.0025	mg/L	10		200.8 LL	Total/NA
Barium	0.14		0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Cadmium	0.00051	E4	0.0010	0.00023	mg/L	10		200.8 LL	Total/NA
Chromium	0.012	D1	0.010	0.0043	mg/L	10		200.8 LL	Total/NA
Cobalt	0.021	D1	0.0050	0.00063	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.74		0.0050	0.0020	mg/L	10		200.8 LL	Total/NA
Selenium	0.064	D1	0.0050	0.00074	mg/L	10		200.8 LL	Total/NA
Thallium	0.00055	E4	0.0010	0.00013	mg/L	10		200.8 LL	Total/NA
Ammonia	0.041	E4	0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	230		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	230		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	100000	D2	1000	1000	mg/L	1		SM 2540C	Total/NA
pH	6.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	86	D1	5.0	2.6	mg/L	10		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	88	D1	5.0	2.6	mg/L	10		SM 5310B	Total/NA
Total Organic Carbon - Quad	86	D1	5.0	2.6	mg/L	10		SM 5310B	Total/NA

Client Sample ID: CH-CCR-FAP-0422 — Lab Sample ID: 550-182959-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.1		0.50	0.050	mg/L	5		200.7 Rev 4.4	Dissolved
Manganese	26		0.050	0.00096	mg/L	5		200.7 Rev 4.4	Dissolved
Arsenic	0.58	D1	0.0050	0.0025	mg/L	10		200.8 LL	Dissolved
Cobalt	0.021	D1	0.0050	0.00063	mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	140	D2 M2	2.0	1.0	mg/L	4		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	140	D2 M2	2.0	1.0	mg/L	4		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	140	D2 M2	2.0	1.0	mg/L	4		SM 5310B	Dissolved

Client Sample ID: CH-CCR-GeronimoC-0422 — Lab Sample ID: 550-182959-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.2	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.50	D1	0.50	0.21	mg/L	10		300.0	Total/NA
Sulfate	5300	D2 N1	400	85	mg/L	200		300.0	Total/NA
Lithium	0.71		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	59		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-GeronimoC-0422 (Continued) — Lab Sample ID: 550-182959-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.53		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	600		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.25		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	48		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4600	B7	5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00012	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.024		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0049	D1	0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000023	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0023		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0019		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0025		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.029		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Thallium	0.000060	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	68		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	68		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000	D2	1000	1000	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.9		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.9		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.9		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-GeronimoC-0422 — Lab Sample ID: 550-182959-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.27		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.25		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.015		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0019		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-GeronimoD-0422 — Lab Sample ID: 550-182959-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7900	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	6.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	5100	D2 N1	400	85	mg/L	200		300.0	Total/NA
Lithium	0.74		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	59		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	740		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.62		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	560		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.15		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	47		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4600	B7	5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00016	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0091		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000048	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-GeronimoD-0422 (Continued) — Lab Sample ID: 550-182959-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0071		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0027		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0013		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.036	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00080	D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	80		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	80		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000	D2	1000	1000	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	3.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	3.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	3.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-GeronimoD-0422 — Lab Sample ID: 550-182959-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.40		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.093		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0033	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.0046	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved
Dissolved Organic Carbon	3.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-HuntB-0422 — Lab Sample ID: 550-182959-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3300	D2 N1	400	85	mg/L	200		300.0	Total/NA
Lithium	0.48		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	29		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	790		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.12		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.95		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	28		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3000	B7	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000060	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0032	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0098	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000072	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0010	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0046	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.43		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0023	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.00014		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.54		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	56		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	56		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9500	D2	500	500	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-HuntB-0422 (Continued) — Lab Sample ID: 550-182959-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.9		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.9		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.9		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-HuntB-0422 — Lab Sample ID: 550-182959-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.058	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.93		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.022		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00066		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-FAP-0422

Date Collected: 04/21/22 10:35
Date Received: 04/22/22 15:48

Lab Sample ID: 550-182959-3

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	49000	D2	2000	520	mg/L			04/27/22 01:18	1000
Fluoride	120	D1	80	9.5	mg/L			04/25/22 22:41	200
Nitrate Nitrite as N	ND	D1 D5 E8	2.5	1.1	mg/L			05/02/22 23:03	50
Sulfate	46000	D2	2000	430	mg/L			04/27/22 01:18	1000

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.0098	D1	0.0050	0.00034	mg/L		04/25/22 09:14	04/29/22 20:45	5
Lithium	9.3		0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 11:41	1
Boron	610		0.50	0.025	mg/L		04/25/22 09:14	04/29/22 20:42	10
Calcium	710	D1	10	0.065	mg/L		04/25/22 09:14	04/29/22 20:45	5
Iron	1.2	D1	0.50	0.050	mg/L		04/25/22 09:14	04/29/22 20:45	5
Magnesium	12000	D2	40	0.89	mg/L		04/25/22 09:14	05/02/22 12:25	20
Manganese	27	D1	0.050	0.00096	mg/L		04/25/22 09:14	04/29/22 20:45	5
Potassium	650	D1	2.5	0.85	mg/L		04/25/22 09:14	04/29/22 20:45	5
Sodium	33000	D2	25	1.5	mg/L		04/25/22 09:14	05/02/22 12:22	50

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.061		0.010	0.00043	mg/L		04/25/22 06:47	04/28/22 16:22	10
Arsenic	0.60	D1	0.0050	0.0025	mg/L		04/25/22 06:47	04/30/22 12:35	10
Barium	0.14		0.0050	0.0026	mg/L		04/25/22 06:47	04/28/22 16:22	10
Cadmium	0.00051	E4	0.0010	0.00023	mg/L		04/25/22 06:47	04/28/22 16:22	10
Chromium	0.012	D1	0.010	0.0043	mg/L		04/25/22 06:47	04/30/22 12:35	10
Cobalt	0.021	D1	0.0050	0.00063	mg/L		04/25/22 06:47	04/30/22 12:35	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/25/22 06:47	04/28/22 16:22	10
Molybdenum	0.74		0.0050	0.0020	mg/L		04/25/22 06:47	04/28/22 16:22	10
Selenium	0.064	D1	0.0050	0.00074	mg/L		04/25/22 06:47	04/30/22 12:35	10
Thallium	0.00055	E4	0.0010	0.00013	mg/L		04/25/22 06:47	04/28/22 16:22	10

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.041	E4	0.050	0.039	mg/L			04/28/22 09:25	1
Alkalinity as CaCO3	230		6.0	6.0	mg/L			04/25/22 16:17	1
Bicarbonate Alkalinity as CaCO3	230		6.0	6.0	mg/L			04/25/22 16:17	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:17	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/25/22 16:17	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:17	1
Total Dissolved Solids	100000	D2	1000	1000	mg/L			04/25/22 10:06	1
pH	6.5	H5	1.7	1.7	SU			04/26/22 20:21	1
Temperature	13.2	H5	0.1	0.1	Degrees C			04/26/22 20:21	1
Total Organic Carbon	86	D1	5.0	2.6	mg/L			05/06/22 09:43	10
Total Organic Carbon - Duplicates	88	D1	5.0	2.6	mg/L			05/06/22 09:43	10
Total Organic Carbon - Quad	86	D1	5.0	2.6	mg/L			05/06/22 09:43	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-FAP-0422

Lab Sample ID: 550-182959-4
Date Collected: 04/21/22 10:35
Matrix: Water
Date Received: 04/22/22 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.1		0.50	0.050	mg/L		04/25/22 09:14	04/29/22 20:52	5
Manganese	26		0.050	0.00096	mg/L		04/25/22 09:14	04/29/22 20:52	5

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.58	D1	0.0050	0.0025	mg/L		04/25/22 06:47	04/30/22 12:37	10
Cobalt	0.021	D1	0.0050	0.00063	mg/L		04/25/22 06:47	04/30/22 12:37	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	140	D2 M2	2.0	1.0	mg/L			05/05/22 19:11	4
Dissolved Organic Carbon - Duplicate	140	D2 M2	2.0	1.0	mg/L			05/05/22 19:11	4
Dissolved Organic Carbon - Quad	140	D2 M2	2.0	1.0	mg/L			05/05/22 19:11	4

Client Sample ID: CH-CCR-GeronimoC-0422

Lab Sample ID: 550-182959-5
Date Collected: 04/20/22 15:25
Matrix: Water
Date Received: 04/22/22 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8200	D2	400	100	mg/L			04/26/22 00:32	200
Fluoride	5.2	D1	0.80	0.095	mg/L			04/26/22 00:13	2
Nitrate Nitrite as N	0.50	D1	0.50	0.21	mg/L			05/02/22 23:31	10
Sulfate	5300	D2 N1	400	85	mg/L			04/26/22 00:32	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 19:46	1
Lithium	0.71		0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 11:45	1
Boron	59		0.050	0.0025	mg/L		04/25/22 09:14	04/27/22 19:46	1
Calcium	730		2.0	0.013	mg/L		04/25/22 09:14	04/27/22 19:46	1
Iron	0.53		0.10	0.010	mg/L		04/25/22 09:14	04/27/22 19:46	1
Magnesium	600		2.0	0.044	mg/L		04/25/22 09:14	04/27/22 19:46	1
Manganese	0.25		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 19:46	1
Potassium	48		0.50	0.17	mg/L		04/25/22 09:14	04/27/22 19:46	1
Sodium	4600	B7	5.0	0.31	mg/L		04/25/22 09:14	04/29/22 21:03	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00012	E4	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 20:44	1
Arsenic	0.024		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 20:44	1
Barium	0.0049	D1	0.00050	0.00026	mg/L		04/25/22 06:47	04/28/22 16:26	1
Cadmium	0.000023	E4	0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 20:44	1
Chromium	0.0023		0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 20:44	1
Cobalt	0.0019		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 20:44	1
Lead	0.0025		0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 20:44	1
Molybdenum	0.029		0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 20:44	1
Selenium	ND	D1 E8	0.0050	0.00074	mg/L		04/25/22 06:47	04/30/22 12:59	10
Thallium	0.000060	E4	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 20:44	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-GeronimoC-0422

Lab Sample ID: 550-182959-5
Matrix: Water

Date Collected: 04/20/22 15:25
Date Received: 04/22/22 15:48

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/28/22 09:27	1
Alkalinity as CaCO3	**68**		6.0	6.0	mg/L			04/25/22 16:22	1
Bicarbonate Alkalinity as CaCO3	**68**		6.0	6.0	mg/L			04/25/22 16:22	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:22	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/25/22 16:22	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:22	1
Total Dissolved Solids	**14000**	**D2**	1000	1000	mg/L			04/25/22 10:06	1
pH	**7.1**	**H5**	1.7	1.7	SU			04/26/22 20:21	1
Temperature	**12.9**	**H5**	0.1	0.1	Degrees C			04/26/22 20:21	1
Total Organic Carbon	**2.9**		0.50	0.26	mg/L			05/06/22 09:57	1
Total Organic Carbon - Duplicates	**2.9**		0.50	0.26	mg/L			05/06/22 09:57	1
Total Organic Carbon - Quad	**2.9**		0.50	0.26	mg/L			05/06/22 09:57	1

Client Sample ID: CH-CCR-GeronimoC-0422

Lab Sample ID: 550-182959-6
Matrix: Water

Date Collected: 04/20/22 15:25
Date Received: 04/22/22 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.27**		0.10	0.010	mg/L		04/25/22 09:14	04/27/22 19:49	1
Manganese	**0.25**		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 19:49	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.015**		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 20:46	1
Cobalt	**0.0019**		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 20:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**2.9**		0.50	0.26	mg/L			05/05/22 19:59	1
Dissolved Organic Carbon - Duplicate	**2.9**		0.50	0.26	mg/L			05/05/22 19:59	1
Dissolved Organic Carbon - Quad	**2.9**		0.50	0.26	mg/L			05/05/22 19:59	1

Client Sample ID: CH-CCR-GeronimoD-0422

Lab Sample ID: 550-182959-7
Matrix: Water

Date Collected: 04/20/22 15:55
Date Received: 04/22/22 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7900**	**D2**	400	100	mg/L			04/26/22 01:09	200
Fluoride	**6.3**	**D1**	0.80	0.095	mg/L			04/26/22 00:50	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.50	0.21	mg/L			05/02/22 23:59	10
Sulfate	**5100**	**D2 N1**	400	85	mg/L			04/26/22 01:09	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 19:52	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-GeronimoD-0422

Lab Sample ID: 550-182959-7
Matrix: Water
Date Collected: 04/20/22 15:55
Date Received: 04/22/22 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.74		0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 11:49	1
Boron	59		0.050	0.0025	mg/L		04/25/22 09:14	04/27/22 19:52	1
Calcium	740		2.0	0.013	mg/L		04/25/22 09:14	04/27/22 19:52	1
Iron	0.62		0.10	0.010	mg/L		04/25/22 09:14	04/27/22 19:52	1
Magnesium	560		2.0	0.044	mg/L		04/25/22 09:14	04/27/22 19:52	1
Manganese	0.15		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 19:52	1
Potassium	47		0.50	0.17	mg/L		04/25/22 09:14	04/27/22 19:52	1
Sodium	4600	B7	5.0	0.31	mg/L		04/25/22 09:14	04/29/22 21:05	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00016	D1 E4	0.0020	0.000087	mg/L		04/25/22 06:47	04/28/22 16:32	2
Arsenic	0.0091		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 20:48	1
Barium	0.011	D1	0.0010	0.00052	mg/L		04/25/22 06:47	04/28/22 16:32	2
Cadmium	0.000048	D1 E4	0.00020	0.000046	mg/L		04/25/22 06:47	04/28/22 16:32	2
Chromium	0.0071		0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 20:48	1
Cobalt	0.0027		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 20:48	1
Lead	0.0013		0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 20:48	1
Molybdenum	0.036	D1	0.0010	0.00040	mg/L		04/25/22 06:47	04/28/22 16:32	2
Selenium	0.00080	D1 E4	0.0010	0.00015	mg/L		04/25/22 06:47	04/30/22 12:45	2
Thallium	ND	E8	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 20:48	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/28/22 09:28	1
Alkalinity as CaCO3	80		6.0	6.0	mg/L			04/25/22 16:29	1
Bicarbonate Alkalinity as CaCO3	80		6.0	6.0	mg/L			04/25/22 16:29	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:29	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/25/22 16:29	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:29	1
Total Dissolved Solids	14000	D2	1000	1000	mg/L			04/25/22 10:06	1
pH	7.5	H5	1.7	1.7	SU			04/26/22 20:21	1
Temperature	12.5	H5	0.1	0.1	Degrees C			04/26/22 20:21	1
Total Organic Carbon	3.1		0.50	0.26	mg/L			05/06/22 10:11	1
Total Organic Carbon - Duplicates	3.1		0.50	0.26	mg/L			05/06/22 10:11	1
Total Organic Carbon - Quad	3.1		0.50	0.26	mg/L			05/06/22 10:11	1

Client Sample ID: CH-CCR-GeronimoD-0422

Lab Sample ID: 550-182959-8
Matrix: Water
Date Collected: 04/20/22 15:55
Date Received: 04/22/22 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.40		0.10	0.010	mg/L		04/25/22 09:14	04/27/22 19:54	1
Manganese	0.093		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 19:54	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-GeronimoD-0422

Lab Sample ID: 550-182959-8
Date Collected: 04/20/22 15:55
Matrix: Water
Date Received: 04/22/22 15:48

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0033	D1	0.0010	0.00049	mg/L		04/25/22 06:47	04/30/22 12:47	2
Cobalt	0.0046	D1	0.0010	0.00013	mg/L		04/25/22 06:47	04/30/22 12:47	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.2		0.50	0.26	mg/L			05/05/22 20:10	1
Dissolved Organic Carbon - Duplicate	3.2		0.50	0.26	mg/L			05/05/22 20:10	1
Dissolved Organic Carbon - Quad	3.2		0.50	0.26	mg/L			05/05/22 20:10	1

Client Sample ID: CH-CCR-HuntB-0422

Lab Sample ID: 550-182959-9
Date Collected: 04/20/22 14:18
Matrix: Water
Date Received: 04/22/22 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5300	D2	400	100	mg/L			04/26/22 01:45	200
Fluoride	3.6	D1	0.80	0.095	mg/L			04/26/22 01:27	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/03/22 00:26	5
Sulfate	3300	D2 N1	400	85	mg/L			04/26/22 01:45	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 19:57	1
Lithium	0.48		0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 11:53	1
Boron	29		0.050	0.0025	mg/L		04/25/22 09:14	04/27/22 19:57	1
Calcium	790		2.0	0.013	mg/L		04/25/22 09:14	04/27/22 19:57	1
Iron	0.12		0.10	0.010	mg/L		04/25/22 09:14	04/27/22 19:57	1
Magnesium	250		2.0	0.044	mg/L		04/25/22 09:14	04/27/22 19:57	1
Manganese	0.95		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 19:57	1
Potassium	28		0.50	0.17	mg/L		04/25/22 09:14	04/27/22 19:57	1
Sodium	3000	B7	2.5	0.15	mg/L		04/25/22 09:14	04/29/22 21:08	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000060	E4	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 20:52	1
Arsenic	0.0032	D1	0.0010	0.00049	mg/L		04/25/22 06:47	04/30/22 12:49	2
Barium	0.0098	D1	0.0010	0.00052	mg/L		04/25/22 06:47	04/28/22 16:36	2
Cadmium	0.000072	E4	0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 20:52	1
Chromium	0.0010	D1 E4	0.0020	0.00087	mg/L		04/25/22 06:47	04/30/22 12:49	2
Cobalt	0.0046	D1	0.0010	0.00013	mg/L		04/25/22 06:47	04/30/22 12:49	2
Lead	ND	E8	0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 20:52	1
Molybdenum	0.43		0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 20:52	1
Selenium	0.0023	D1	0.0010	0.00015	mg/L		04/25/22 06:47	04/30/22 12:49	2
Thallium	0.00014		0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 20:52	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-HuntB-0422

Lab Sample ID: 550-182959-9
Date Collected: 04/20/22 14:18
Matrix: Water
Date Received: 04/22/22 15:48

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.54		0.050	0.039	mg/L			04/28/22 09:30	1
Alkalinity as CaCO3	56		6.0	6.0	mg/L			04/25/22 16:35	1
Bicarbonate Alkalinity as CaCO3	56		6.0	6.0	mg/L			04/25/22 16:35	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:35	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/25/22 16:35	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:35	1
Total Dissolved Solids	9500	D2	500	500	mg/L			04/25/22 10:06	1
pH	7.5	H5	1.7	1.7	SU			04/26/22 20:21	1
Temperature	12.0	H5	0.1	0.1	Degrees C			04/26/22 20:21	1
Total Organic Carbon	1.9		0.50	0.26	mg/L			05/06/22 10:25	1
Total Organic Carbon - Duplicates	1.9		0.50	0.26	mg/L			05/06/22 10:25	1
Total Organic Carbon - Quad	1.9		0.50	0.26	mg/L			05/06/22 10:25	1

Client Sample ID: CH-CCR-HuntB-0422

Lab Sample ID: 550-182959-10
Date Collected: 04/20/22 14:18
Matrix: Water
Date Received: 04/22/22 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.058	E4	0.10	0.010	mg/L		04/25/22 09:14	04/27/22 19:59	1
Manganese	0.93		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 19:59	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.022		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 20:54	1
Cobalt	0.00066		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 20:54	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.3		0.50	0.26	mg/L			05/05/22 20:21	1
Dissolved Organic Carbon - Duplicate	2.3		0.50	0.26	mg/L			05/05/22 20:21	1
Dissolved Organic Carbon - Quad	2.3		0.50	0.26	mg/L			05/05/22 20:21	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-272515/1029 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/25/22 19:19	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/25/22 19:19	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/25/22 19:19	1

Lab Sample ID: LCS 550-272515/30 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.3		mg/L		106	90 - 110
Fluoride	4.00	4.09		mg/L		102	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-272515/31 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.3		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-182959-A-1 MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.38	E4 D1	8.00	8.71	D1	mg/L		104	80 - 120

Lab Sample ID: 550-182959-A-1 MS ^200 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	580	D2	4000	5010	D2	mg/L		111	80 - 120

Lab Sample ID: 550-182959-A-1 MSD ^2 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.38	E4 D1	8.00	8.72	D1	mg/L		104	80 - 120	0	20

Lab Sample ID: 550-182959-A-1 MSD ^200 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	580	D2	4000	5000	D2	mg/L		110	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-272619/1042
Matrix: Water
Analysis Batch: 272619

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/26/22 23:09	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/26/22 23:09	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/26/22 23:09	1

Lab Sample ID: LCS 550-272619/43
Matrix: Water
Analysis Batch: 272619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.3		mg/L		107	90 - 110
Fluoride	4.00	4.15		mg/L		104	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-272619/44
Matrix: Water
Analysis Batch: 272619

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.3		mg/L		107	90 - 110	0	20
Fluoride	4.00	4.17		mg/L		104	90 - 110	1	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-182959-B-1 MS ^50
Matrix: Water
Analysis Batch: 272619

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	600	D2	1000	1730	D2	mg/L		113	80 - 120
Fluoride	ND	E8 D1 D5	200	207	D1	mg/L		104	80 - 120
Sulfate	240	D2	1000	1300	D2	mg/L		106	80 - 120

Lab Sample ID: 550-182959-B-1 MSD ^50
Matrix: Water
Analysis Batch: 272619

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	600	D2	1000	1740	D2	mg/L		113	80 - 120	0	20
Fluoride	ND	E8 D1 D5	200	207	D1	mg/L		104	80 - 120	0	20
Sulfate	240	D2	1000	1300	D2	mg/L		106	80 - 120	0	20

Lab Sample ID: MB 550-273077/2
Matrix: Water
Analysis Batch: 273077

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			05/02/22 11:24	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-273077/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273077

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N			8.00	8.11		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-273077/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273077

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N			8.00	8.13		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-183314-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273077

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	11		8.00	19.0		mg/L		99	80 - 120		

Lab Sample ID: 550-183314-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273077

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	11		8.00	19.0		mg/L		99	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-272450/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 19:23	1
Boron	0.00665	E4	0.050	0.0025	mg/L		04/25/22 09:14	04/27/22 19:23	1
Calcium	ND	E8	2.0	0.013	mg/L		04/25/22 09:14	04/27/22 19:23	1
Magnesium	ND	E8	2.0	0.044	mg/L		04/25/22 09:14	04/27/22 19:23	1
Potassium	ND	E8	0.50	0.17	mg/L		04/25/22 09:14	04/27/22 19:23	1
Sodium	0.142	E4	0.50	0.031	mg/L		04/25/22 09:14	04/27/22 19:23	1
Iron	0.0240	E4	0.10	0.010	mg/L		04/25/22 09:14	04/27/22 19:23	1
Manganese	ND	E8	0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 19:23	1

Lab Sample ID: MB 550-272450/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272972 — **Prep Batch: 272450**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/29/22 20:24	1
Boron	0.0111	E4	0.050	0.0025	mg/L		04/25/22 09:14	04/29/22 20:24	1
Calcium	0.102	E4	2.0	0.013	mg/L		04/25/22 09:14	04/29/22 20:24	1
Magnesium	0.0537	E4	2.0	0.044	mg/L		04/25/22 09:14	04/29/22 20:24	1
Potassium	0.392	E4	0.50	0.17	mg/L		04/25/22 09:14	04/29/22 20:24	1
Sodium	0.565	B1	0.50	0.031	mg/L		04/25/22 09:14	04/29/22 20:24	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-272450/1-A
Matrix: Water
Analysis Batch: 272972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 272450

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.0258	E4	0.10	0.010	mg/L		04/25/22 09:14	04/29/22 20:24	1
Manganese	ND	E8	0.010	0.00019	mg/L		04/25/22 09:14	04/29/22 20:24	1

Lab Sample ID: MB 550-272450/1-A
Matrix: Water
Analysis Batch: 273125

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 272450

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND	E8	2.0	0.044	mg/L		04/25/22 09:14	05/02/22 12:04	1
Sodium	0.0951	E4	0.50	0.031	mg/L		04/25/22 09:14	05/02/22 12:04	1

Lab Sample ID: LCS 550-272450/2-A
Matrix: Water
Analysis Batch: 272866

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.942		mg/L		94	85 - 115
Boron	1.00	0.951		mg/L		95	85 - 115
Calcium	21.0	19.8		mg/L		94	85 - 115
Magnesium	21.0	19.0		mg/L		90	85 - 115
Potassium	20.0	18.4		mg/L		92	85 - 115
Sodium	20.0	18.3		mg/L		91	85 - 115
Iron	1.00	0.926		mg/L		93	85 - 115
Manganese	1.00	0.925		mg/L		93	85 - 115

Lab Sample ID: LCS 550-272450/2-A
Matrix: Water
Analysis Batch: 272972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.963		mg/L		96	85 - 115
Boron	1.00	0.933		mg/L		93	85 - 115
Calcium	21.0	20.1		mg/L		96	85 - 115
Magnesium	21.0	19.4		mg/L		92	85 - 115
Potassium	20.0	18.6		mg/L		93	85 - 115
Sodium	20.0	18.9		mg/L		94	85 - 115
Iron	1.00	0.929		mg/L		93	85 - 115
Manganese	1.00	0.939		mg/L		94	85 - 115

Lab Sample ID: LCS 550-272450/2-A
Matrix: Water
Analysis Batch: 273125

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	21.0	20.1		mg/L		96	85 - 115
Sodium	20.0	19.3		mg/L		96	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-272450/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.993		mg/L		99	85 - 115	5	20
Boron	1.00	0.973		mg/L		97	85 - 115	2	20
Calcium	21.0	20.8		mg/L		99	85 - 115	5	20
Magnesium	21.0	20.0		mg/L		95	85 - 115	5	20
Potassium	20.0	19.4		mg/L		97	85 - 115	5	20
Sodium	20.0	19.1		mg/L		96	85 - 115	5	20
Iron	1.00	0.974		mg/L		97	85 - 115	5	20
Manganese	1.00	0.950		mg/L		95	85 - 115	3	20

Lab Sample ID: LCSD 550-272450/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272972 — **Prep Batch: 272450**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.988		mg/L		99	85 - 115	3	20
Boron	1.00	0.971		mg/L		97	85 - 115	4	20
Calcium	21.0	20.6		mg/L		98	85 - 115	2	20
Magnesium	21.0	19.9		mg/L		95	85 - 115	2	20
Potassium	20.0	18.9		mg/L		95	85 - 115	2	20
Sodium	20.0	19.2		mg/L		96	85 - 115	2	20
Iron	1.00	0.950		mg/L		95	85 - 115	2	20
Manganese	1.00	0.980		mg/L		98	85 - 115	4	20

Lab Sample ID: LCSD 550-272450/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273125 — **Prep Batch: 272450**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Magnesium	21.0	20.7		mg/L		98	85 - 115	3	20
Sodium	20.0	19.8		mg/L		99	85 - 115	3	20

Lab Sample ID: 550-182959-E-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND	E8	1.00	1.01		mg/L		101	70 - 130
Boron	0.14		1.00	1.12		mg/L		97	70 - 130
Calcium	100		21.0	122	M3	mg/L		90	70 - 130
Magnesium	41		21.0	60.0		mg/L		90	70 - 130
Potassium	3.6		20.0	23.5		mg/L		100	70 - 130
Sodium	350	M3	20.0	364	M3	mg/L		50	70 - 130
Iron	0.21		1.00	1.18		mg/L		97	70 - 130
Manganese	0.73		1.00	1.62		mg/L		89	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-182959-E-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272972 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND	E8	1.00	0.970		mg/L		97	70 - 130
Boron	0.15		1.00	1.12		mg/L		97	70 - 130
Calcium	100	M3	21.0	116	M3	mg/L		65	70 - 130
Magnesium	41		21.0	57.8		mg/L		79	70 - 130
Potassium	3.5		20.0	22.3		mg/L		94	70 - 130
Sodium	350	B1 M3	20.0	348	M3	mg/L		-23	70 - 130
Iron	0.20		1.00	1.11		mg/L		91	70 - 130
Manganese	0.76		1.00	1.68		mg/L		93	70 - 130

Lab Sample ID: 550-182959-E-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273125 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	42		21.0	60.9		mg/L		92	70 - 130
Sodium	350	M3	20.0	364	M3	mg/L		47	70 - 130

Lab Sample ID: 550-182959-E-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND	E8	1.00	1.02		mg/L		102	70 - 130	1	20
Boron	0.14		1.00	1.13		mg/L		98	70 - 130	1	20
Calcium	100		21.0	122	M3	mg/L		90	70 - 130	0	20
Magnesium	41		21.0	60.5		mg/L		93	70 - 130	1	20
Potassium	3.6		20.0	23.7		mg/L		101	70 - 130	1	20
Sodium	350	M3	20.0	366	M3	mg/L		61	70 - 130	1	20
Iron	0.21		1.00	1.20		mg/L		99	70 - 130	2	20
Manganese	0.73		1.00	1.64		mg/L		91	70 - 130	1	20

Lab Sample ID: 550-182959-E-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272972 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND	E8	1.00	0.999		mg/L		100	70 - 130	3	20
Boron	0.15		1.00	1.13		mg/L		98	70 - 130	1	20
Calcium	100	M3	21.0	119	M3	mg/L		79	70 - 130	3	20
Magnesium	41		21.0	59.5		mg/L		87	70 - 130	3	20
Potassium	3.5		20.0	22.8		mg/L		96	70 - 130	2	20
Sodium	350	B1 M3	20.0	359	M3	mg/L		30	70 - 130	3	20
Iron	0.20		1.00	1.15		mg/L		95	70 - 130	4	20
Manganese	0.76		1.00	1.70		mg/L		94	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-182959-E-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273125 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Magnesium	42		21.0	61.3		mg/L		94	70 - 130	1	20
Sodium	350	M3	20.0	369	M3	mg/L		73	70 - 130	1	20

Lab Sample ID: MB 280-573141/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 10:16	1

Lab Sample ID: LCS 280-573141/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.986		mg/L		99	90 - 112

Lab Sample ID: 550-182959-F-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.033		1.00	1.03		mg/L		100	70 - 130

Lab Sample ID: 550-182959-F-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.033		1.00	1.04		mg/L		100	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-272434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 20:25	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 20:25	1
Cadmium	0.0000240	E4	0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 20:25	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 20:25	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 20:25	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 20:25	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 20:25	1
Thallium	0.0000180	E4	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 20:25	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-272434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND	E8	0.00050	0.00026	mg/L		04/25/22 06:47	04/28/22 16:07	1

Lab Sample ID: MB 550-272434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	E8	0.00050	0.000074	mg/L		04/25/22 06:47	04/30/22 12:20	1

Lab Sample ID: LCS 550-272434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0962		mg/L		96	85 - 115
Arsenic	0.100	0.0956		mg/L		96	85 - 115
Cadmium	0.100	0.0971		mg/L		97	85 - 115
Chromium	0.100	0.100		mg/L		100	85 - 115
Cobalt	0.100	0.105		mg/L		105	85 - 115
Lead	0.100	0.0978		mg/L		98	85 - 115
Molybdenum	0.100	0.100		mg/L		100	85 - 115
Thallium	0.100	0.0958		mg/L		96	85 - 115

Lab Sample ID: LCS 550-272434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.106		mg/L		106	85 - 115

Lab Sample ID: LCS 550-272434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.0978		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-272434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0939		mg/L		94	85 - 115	2	20
Arsenic	0.100	0.0953		mg/L		95	85 - 115	0	20
Cadmium	0.100	0.0949		mg/L		95	85 - 115	2	20
Chromium	0.100	0.0988		mg/L		99	85 - 115	2	20
Cobalt	0.100	0.109		mg/L		109	85 - 115	4	20
Lead	0.100	0.0950		mg/L		95	85 - 115	3	20
Molybdenum	0.100	0.0965		mg/L		96	85 - 115	4	20
Thallium	0.100	0.0920		mg/L		92	85 - 115	4	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: LCSD 550-272434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium			0.100	0.111		mg/L		111	85 - 115	5	20

Lab Sample ID: LCSD 550-272434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium			0.100	0.100		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-182959-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	0.000051	E4	0.100	0.0997		mg/L		100	70 - 130		
Arsenic	ND	E8	0.100	0.0999		mg/L		100	70 - 130		
Cadmium	0.000035	E4	0.100	0.0940		mg/L		94	70 - 130		
Chromium	0.0035		0.100	0.101		mg/L		97	70 - 130		
Cobalt	0.00014	E4	0.100	0.101		mg/L		101	70 - 130		
Lead	ND	E8	0.100	0.0898		mg/L		90	70 - 130		
Molybdenum	0.0031		0.100	0.108		mg/L		104	70 - 130		
Thallium	0.000098	E4	0.100	0.0898		mg/L		90	70 - 130		

Lab Sample ID: 550-182959-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Barium	0.074		0.100	0.190		mg/L		116	70 - 130		

Lab Sample ID: 550-182959-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Selenium	0.00011	E4	0.100	0.100		mg/L		100	70 - 130		

Lab Sample ID: 550-182959-E-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.000051	E4	0.100	0.0931		mg/L		93	70 - 130	7	20
Arsenic	ND	E8	0.100	0.0975		mg/L		98	70 - 130	2	20
Cadmium	0.000035	E4	0.100	0.0876		mg/L		88	70 - 130	7	20
Chromium	0.0035		0.100	0.0968		mg/L		93	70 - 130	4	20
Cobalt	0.00014	E4	0.100	0.0986		mg/L		98	70 - 130	3	20
Lead	ND	E8	0.100	0.0899		mg/L		90	70 - 130	0	20
Molybdenum	0.0031		0.100	0.103		mg/L		99	70 - 130	5	20
Thallium	0.000098	E4	0.100	0.0895		mg/L		89	70 - 130	0	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: 550-182959-E-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.074		0.100	0.178		mg/L		105	70 - 130	6	20

Lab Sample ID: 550-182959-E-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.00011	E4	0.100	0.0987		mg/L		99	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-272719/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:10	1

Lab Sample ID: LCS 550-272719/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hg	0.00500	0.00492		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-272719/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	0.00500	0.00495		mg/L		99	85 - 115	1	20

Lab Sample ID: 550-182959-E-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hg	ND	E8	0.00500	0.00558		mg/L		112	70 - 130

Lab Sample ID: 550-182959-E-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00572		mg/L		114	70 - 130	2	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-272773/60 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272773

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/28/22 09:16	1

Lab Sample ID: LCS 550-272773/61 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272773

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.994		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-272773/62 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272773

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.988		mg/L		99	90 - 110	1	20

Lab Sample ID: 550-182947-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272773

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.1	M2	1.00	1.84	M2	mg/L		78	90 - 110

Lab Sample ID: 550-182947-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272773

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.1	M2	1.00	1.99		mg/L		93	90 - 110	8	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-272508/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272508

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 15:57	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 15:57	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 15:57	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/25/22 15:57	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 15:57	1

Lab Sample ID: LCS 550-272508/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	247		mg/L		99	90 - 110

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-182816-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272508

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	250			249		mg/L				0.1	20
Bicarbonate Alkalinity as CaCO3	250			249		mg/L				0.1	20
Carbonate Alkalinity as CaCO3	ND	E8		ND	E8	mg/L				NC	20
Alkalinity, Phenolphthalein	ND	E8		ND	E8	mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND	E8		ND	E8	mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-272455/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272455

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/25/22 10:06	1

Lab Sample ID: LCS 550-272455/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272455

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	976		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-272455/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272455

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	960		mg/L		96	90 - 110	2	10

Lab Sample ID: 550-182712-D-15 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272455

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	4800	D2		5110	D2	mg/L				6	10

Lab Sample ID: 550-182930-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272455

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	610			638		mg/L				4	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-272627/1
Matrix: Water
Analysis Batch: 272627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.9		SU		98.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-272627/13
Matrix: Water
Analysis Batch: 272627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.9		SU		98.7	98.5 - 101.5		

Lab Sample ID: 550-182959-B-1 DU
Matrix: Water
Analysis Batch: 272627

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.8	H5		7.8	H5	SU				0	5
Temperature	13.5	H5		12.7	H5	Degrees C				6	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-273519/65
Matrix: Water
Analysis Batch: 273519

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			05/06/22 07:51	1
Total Organic Carbon - Duplicates	ND	E8	0.50	0.26	mg/L			05/06/22 07:51	1
Total Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			05/06/22 07:51	1

Lab Sample ID: LCS 550-273519/66
Matrix: Water
Analysis Batch: 273519

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon			20.0	19.9		mg/L		99	90 - 110		
Total Organic Carbon - Duplicates			20.0	19.9		mg/L		99	90 - 110		
Total Organic Carbon - Quad			20.0	19.9		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-273519/67
Matrix: Water
Analysis Batch: 273519

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon			20.0	18.8		mg/L		94	90 - 110	6	20
Total Organic Carbon - Duplicates			20.0	18.8		mg/L		94	90 - 110	6	20
Total Organic Carbon - Quad			20.0	18.8		mg/L		94	90 - 110	6	20

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 550-182891-B-1 MS
Matrix: Water
Analysis Batch: 273519

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	9.3		20.0	28.7		mg/L		97	90 - 110
Total Organic Carbon - Duplicates	9.3		20.0	28.7		mg/L		97	90 - 110
Total Organic Carbon - Quad	9.3		20.0	28.7		mg/L		97	90 - 110

Lab Sample ID: 550-182891-C-1 MSD
Matrix: Water
Analysis Batch: 273519

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	9.3		20.0	28.7		mg/L		97	90 - 110	0	20
Total Organic Carbon - Duplicates	9.3		20.0	28.7		mg/L		97	90 - 110	0	20
Total Organic Carbon - Quad	9.3		20.0	28.7		mg/L		97	90 - 110	0	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-273420/1-A
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			05/05/22 19:00	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			05/05/22 19:00	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			05/05/22 19:00	1

Lab Sample ID: LCS 550-273518/6
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	19.4		mg/L		97	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	19.4		mg/L		97	90 - 110
Dissolved Organic Carbon - Quad	20.0	19.4		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-273518/7
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.5		mg/L		92	90 - 110	5	20
Dissolved Organic Carbon - Duplicate	20.0	18.5		mg/L		92	90 - 110	5	20
Dissolved Organic Carbon - Quad	20.0	18.5		mg/L		92	90 - 110	5	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-182959-4 MS
Matrix: Water
Analysis Batch: 273518

Client Sample ID: CH-CCR-FAP-0422
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Dissolved Organic Carbon	140	M2 D2	80.0	171	D2 M2	mg/L		44	90 - 110		
Dissolved Organic Carbon - Duplicate	140	M2 D2	80.0	171	D2 M2	mg/L		44	90 - 110		
Dissolved Organic Carbon - Quad	140	M2 D2	80.0	171	D2 M2	mg/L		44	90 - 110		

Lab Sample ID: 550-182959-4 MSD
Matrix: Water
Analysis Batch: 273518

Client Sample ID: CH-CCR-FAP-0422
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	140	M2 D2	80.0	172	D2 M2	mg/L		45	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	140	M2 D2	80.0	172	D2 M2	mg/L		45	90 - 110	1	20
Dissolved Organic Carbon - Quad	140	M2 D2	80.0	172	D2 M2	mg/L		45	90 - 110	1	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

HPLC/IC

Analysis Batch: 272515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	300.0	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	300.0	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	300.0	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	300.0	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	300.0	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	300.0	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	300.0	
MB 550-272515/1029	Method Blank	Total/NA	Water	300.0	
LCS 550-272515/30	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-272515/31	Lab Control Sample Dup	Total/NA	Water	300.0	
550-182959-A-1 MS ^2	Matrix Spike	Total/NA	Water	300.0	
550-182959-A-1 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-182959-A-1 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-182959-A-1 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 272619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	300.0	
MB 550-272619/1042	Method Blank	Total/NA	Water	300.0	
LCS 550-272619/43	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-272619/44	Lab Control Sample Dup	Total/NA	Water	300.0	
550-182959-B-1 MS ^50	Matrix Spike	Total/NA	Water	300.0	
550-182959-B-1 MSD ^50	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 273077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	300.0	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	300.0	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	300.0	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	300.0	
MB 550-273077/2	Method Blank	Total/NA	Water	300.0	
LCS 550-273077/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-273077/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183314-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-183314-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 272434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	200.8	
550-182959-4	CH-CCR-FAP-0422	Dissolved	Water	200.8	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	200.8	
550-182959-6	CH-CCR-GeronimoC-0422	Dissolved	Water	200.8	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	200.8	
550-182959-8	CH-CCR-GeronimoD-0422	Dissolved	Water	200.8	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	200.8	
550-182959-10	CH-CCR-HuntB-0422	Dissolved	Water	200.8	
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 272434 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-E-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-182959-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 272450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	200.7	
550-182959-4	CH-CCR-FAP-0422	Dissolved	Water	200.7	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	200.7	
550-182959-6	CH-CCR-GeronimoC-0422	Dissolved	Water	200.7	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	200.7	
550-182959-8	CH-CCR-GeronimoD-0422	Dissolved	Water	200.7	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	200.7	
550-182959-10	CH-CCR-HuntB-0422	Dissolved	Water	200.7	
MB 550-272450/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-272450/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-272450/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-182959-E-1-D MS	Matrix Spike	Total/NA	Water	200.7	
550-182959-E-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 272719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	245.1	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	245.1	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	245.1	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	245.1	
MB 550-272719/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-272719/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-272719/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-182959-E-1-G MS	Matrix Spike	Total/NA	Water	245.1	
550-182959-E-1-H MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 272735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	245.1	272719
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	245.1	272719
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	245.1	272719
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	245.1	272719
MB 550-272719/1-A	Method Blank	Total/NA	Water	245.1	272719
LCS 550-272719/2-A	Lab Control Sample	Total/NA	Water	245.1	272719
LCSD 550-272719/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	272719
550-182959-E-1-G MS	Matrix Spike	Total/NA	Water	245.1	272719
550-182959-E-1-H MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	272719

Analysis Batch: 272751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	200.8 LL	272434
550-182959-6	CH-CCR-GeronimoC-0422	Dissolved	Water	200.8 LL	272434
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	200.8 LL	272434
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	200.8 LL	272434
550-182959-10	CH-CCR-HuntB-0422	Dissolved	Water	200.8 LL	272434
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8 LL	272434

Metals (Continued)

Analysis Batch: 272751 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272434
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272434
550-182959-E-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	272434
550-182959-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	272434

Analysis Batch: 272855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	200.8 LL	272434
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	200.8 LL	272434
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	200.8 LL	272434
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	200.8 LL	272434
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8 LL	272434
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272434
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272434
550-182959-E-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	272434
550-182959-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	272434

Analysis Batch: 272866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-6	CH-CCR-GeronimoC-0422	Dissolved	Water	200.7 Rev 4.4	272450
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-8	CH-CCR-GeronimoD-0422	Dissolved	Water	200.7 Rev 4.4	272450
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-10	CH-CCR-HuntB-0422	Dissolved	Water	200.7 Rev 4.4	272450
MB 550-272450/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272450
LCS 550-272450/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272450
LCSD 550-272450/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-E-1-D MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-E-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	272450

Analysis Batch: 272972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-4	CH-CCR-FAP-0422	Dissolved	Water	200.7 Rev 4.4	272450
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	200.7 Rev 4.4	272450
MB 550-272450/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272450
LCS 550-272450/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272450
LCSD 550-272450/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-E-1-D MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-E-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	272450

Analysis Batch: 272988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	200.8 LL	272434
550-182959-4	CH-CCR-FAP-0422	Dissolved	Water	200.8 LL	272434
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	200.8 LL	272434
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	200.8 LL	272434

Metals (Continued)

Analysis Batch: 272988 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-8	CH-CCR-GeronimoD-0422	Dissolved	Water	200.8 LL	272434
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	200.8 LL	272434
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8 LL	272434
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272434
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272434
550-182959-E-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	272434
550-182959-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	272434

Analysis Batch: 273125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	200.7 Rev 4.4	272450
MB 550-272450/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272450
LCS 550-272450/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272450
LCSD 550-272450/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-E-1-D MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-E-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	272450

Prep Batch: 573141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	200.7	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	200.7	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	200.7	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	200.7	
MB 280-573141/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-573141/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-182959-F-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-182959-F-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 573293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	200.7 Rev 4.4	573141
MB 280-573141/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	573141
LCS 280-573141/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-F-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-F-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	573141

General Chemistry

Analysis Batch: 272455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	SM 2540C	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	SM 2540C	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	SM 2540C	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	SM 2540C	
MB 550-272455/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-272455/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-272455/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 272455 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182712-D-15 DU	Duplicate	Total/NA	Water	SM 2540C	
550-182930-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 272508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	SM 2320B	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	SM 2320B	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	SM 2320B	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	SM 2320B	
MB 550-272508/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-272508/3	Lab Control Sample	Total/NA	Water	SM 2320B	
550-182816-A-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 272627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	SM 4500 H+ B	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	SM 4500 H+ B	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	SM 4500 H+ B	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272627/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272627/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-182959-B-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 272773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	350.1	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	350.1	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	350.1	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	350.1	
MB 550-272773/60	Method Blank	Total/NA	Water	350.1	
LCS 550-272773/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-272773/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-182947-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-182947-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Filtration Batch: 273420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-273420/1-A	Method Blank	Dissolved	Water	Filtration	

Analysis Batch: 273518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-4	CH-CCR-FAP-0422	Dissolved	Water	SM 5310B	
550-182959-6	CH-CCR-GeronimoC-0422	Dissolved	Water	SM 5310B	
550-182959-8	CH-CCR-GeronimoD-0422	Dissolved	Water	SM 5310B	
550-182959-10	CH-CCR-HuntB-0422	Dissolved	Water	SM 5310B	
MB 550-273420/1-A	Method Blank	Dissolved	Water	SM 5310B	273420
LCS 550-273518/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-273518/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-182959-4 MS	CH-CCR-FAP-0422	Dissolved	Water	SM 5310B	
550-182959-4 MSD	CH-CCR-FAP-0422	Dissolved	Water	SM 5310B	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

General Chemistry

Analysis Batch: 273519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-3	CH-CCR-FAP-0422	Total/NA	Water	SM 5310B	
550-182959-5	CH-CCR-GeronimoC-0422	Total/NA	Water	SM 5310B	
550-182959-7	CH-CCR-GeronimoD-0422	Total/NA	Water	SM 5310B	
550-182959-9	CH-CCR-HuntB-0422	Total/NA	Water	SM 5310B	
MB 550-273519/65	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-273519/66	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-273519/67	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-182891-B-1 MS	Matrix Spike	Total/NA	Water	SM 5310B	
550-182891-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-FAP-0422

Lab Sample ID: 550-182959-3
Date Collected: 04/21/22 10:35
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200	272515	04/25/22 22:41	AS1	TAL PHX
Total/NA	Analysis	300.0		1000	272619	04/27/22 01:18	AS1	TAL PHX
Total/NA	Analysis	300.0		50	273077	05/02/22 23:03	AS1	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	272972	04/29/22 20:42	MGM	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	272972	04/29/22 20:45	MGM	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		50	273125	05/02/22 12:22	MGM	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	273125	05/02/22 12:25	MGM	TAL PHX
Total/NA	Prep	200.7			573141	04/27/22 10:56	MB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	573293	04/28/22 11:41	MAB	TAL DEN
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	272855	04/28/22 16:22	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	272988	04/30/22 12:35	ARE	TAL PHX
Total/NA	Prep	245.1			272719	04/27/22 17:18	SRR	TAL PHX
Total/NA	Analysis	245.1		1	272735	04/27/22 22:24	SRR	TAL PHX
Total/NA	Analysis	350.1		1	272773	04/28/22 09:25	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	272508	04/25/22 16:17	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	272455		CHS	TAL PHX
					(Start)	04/25/22 10:06		
					(End)	04/26/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	272627	04/26/22 20:21	CXK	TAL PHX
Total/NA	Analysis	SM 5310B		10	273519	05/06/22 09:43	MEG	TAL PHX

Client Sample ID: CH-CCR-FAP-0422

Lab Sample ID: 550-182959-4
Date Collected: 04/21/22 10:35
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		5	272972	04/29/22 20:52	MGM	TAL PHX
Dissolved	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	272988	04/30/22 12:37	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		4	273518	05/05/22 19:11	MEG	TAL PHX

Client Sample ID: CH-CCR-GeronimoC-0422

Lab Sample ID: 550-182959-5
Date Collected: 04/20/22 15:25
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	272515	04/26/22 00:13	AS1	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-GeronimoC-0422

Lab Sample ID: 550-182959-5
Date Collected: 04/20/22 15:25
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200	272515	04/26/22 00:32	AS1	TAL PHX
Total/NA	Analysis	300.0		10	273077	05/02/22 23:31	AS1	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	272866	04/27/22 19:46	MGM	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	272972	04/29/22 21:03	MGM	TAL PHX
Total/NA	Prep	200.7			573141	04/27/22 10:56	MB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	573293	04/28/22 11:45	MAB	TAL DEN
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272751	04/27/22 20:44	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272855	04/28/22 16:26	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	272988	04/30/22 12:59	ARE	TAL PHX
Total/NA	Prep	245.1			272719	04/27/22 17:18	SRR	TAL PHX
Total/NA	Analysis	245.1		1	272735	04/27/22 22:26	SRR	TAL PHX
Total/NA	Analysis	350.1		1	272773	04/28/22 09:27	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	272508	04/25/22 16:22	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	272455		CHS	TAL PHX
					(Start)	04/25/22 10:06		
					(End)	04/26/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	272627	04/26/22 20:21	CXK	TAL PHX
Total/NA	Analysis	SM 5310B		1	273519	05/06/22 09:57	MEG	TAL PHX

Client Sample ID: CH-CCR-GeronimoC-0422

Lab Sample ID: 550-182959-6
Date Collected: 04/20/22 15:25
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	272866	04/27/22 19:49	MGM	TAL PHX
Dissolved	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	272751	04/27/22 20:46	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	273518	05/05/22 19:59	MEG	TAL PHX

Client Sample ID: CH-CCR-GeronimoD-0422

Lab Sample ID: 550-182959-7
Date Collected: 04/20/22 15:55
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	272515	04/26/22 00:50	AS1	TAL PHX
Total/NA	Analysis	300.0		200	272515	04/26/22 01:09	AS1	TAL PHX
Total/NA	Analysis	300.0		10	273077	05/02/22 23:59	AS1	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-GeronimoD-0422

Lab Sample ID: 550-182959-7
Date Collected: 04/20/22 15:55
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	272866	04/27/22 19:52	MGM	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	272972	04/29/22 21:05	MGM	TAL PHX
Total/NA	Prep	200.7			573141	04/27/22 10:56	MB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	573293	04/28/22 11:49	MAB	TAL DEN
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272751	04/27/22 20:48	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	272855	04/28/22 16:32	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	272988	04/30/22 12:45	ARE	TAL PHX
Total/NA	Prep	245.1			272719	04/27/22 17:18	SRR	TAL PHX
Total/NA	Analysis	245.1		1	272735	04/27/22 22:28	SRR	TAL PHX
Total/NA	Analysis	350.1		1	272773	04/28/22 09:28	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	272508	04/25/22 16:29	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	272455		CHS	TAL PHX
					(Start)	04/25/22 10:06		
					(End)	04/26/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	272627	04/26/22 20:21	CXK	TAL PHX
Total/NA	Analysis	SM 5310B		1	273519	05/06/22 10:11	MEG	TAL PHX

Client Sample ID: CH-CCR-GeronimoD-0422

Lab Sample ID: 550-182959-8
Date Collected: 04/20/22 15:55
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	272866	04/27/22 19:54	MGM	TAL PHX
Dissolved	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	272988	04/30/22 12:47	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	273518	05/05/22 20:10	MEG	TAL PHX

Client Sample ID: CH-CCR-HuntB-0422

Lab Sample ID: 550-182959-9
Date Collected: 04/20/22 14:18
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	272515	04/26/22 01:27	AS1	TAL PHX
Total/NA	Analysis	300.0		200	272515	04/26/22 01:45	AS1	TAL PHX
Total/NA	Analysis	300.0		5	273077	05/03/22 00:26	AS1	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	272866	04/27/22 19:57	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Client Sample ID: CH-CCR-HuntB-0422

Lab Sample ID: 550-182959-9
Date Collected: 04/20/22 14:18
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	272972	04/29/22 21:08	MGM	TAL PHX
Total/NA	Prep	200.7			573141	04/27/22 10:56	MB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	573293	04/28/22 11:53	MAB	TAL DEN
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272751	04/27/22 20:52	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	272855	04/28/22 16:36	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	272988	04/30/22 12:49	ARE	TAL PHX
Total/NA	Prep	245.1			272719	04/27/22 17:18	SRR	TAL PHX
Total/NA	Analysis	245.1		1	272735	04/27/22 22:30	SRR	TAL PHX
Total/NA	Analysis	350.1		1	272773	04/28/22 09:30	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	272508	04/25/22 16:35	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	272455		CHS	TAL PHX
					(Start)	04/25/22 10:06		
					(End)	04/26/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	272627	04/26/22 20:21	CXK	TAL PHX
Total/NA	Analysis	SM 5310B		1	273519	05/06/22 10:25	MEG	TAL PHX

Client Sample ID: CH-CCR-HuntB-0422

Lab Sample ID: 550-182959-10
Date Collected: 04/20/22 14:18
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	272866	04/27/22 19:59	MGM	TAL PHX
Dissolved	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	272751	04/27/22 20:54	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	273518	05/05/22 20:21	MEG	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon
SM 5310B		Water	Dissolved Organic Carbon - Duplicate
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-08-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Laboratory: Eurofins Denver (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wyoming (UST)	A2LA	2907.01	10-31-22

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-2

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

182959

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5/6/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 2 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (SEDI)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
CH-CCR-CR1R-0422 -01	4/22/2022	09:05	G	W	2	N		X	X	X	X	X	X	Low Flow
CH-CCR-FD02-0422 -02	4/22/22	09:05	G	W	2	N	N	X	X	X	X	X	X	"
CH-CCR-CR1R-0422-MS -01	4/22/22	09:05	G	W	2	N	N	X	X	X	X	X	X	Low Flow, MS
CH-CCR-CR1R-0422-SD -01	4/22/22	09:05	G	W	2	N	N	X	X	X	X	X	X	Low Flow, MSD
								1	4	1	1	4	4	

550-182959 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.9°C ice CPO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Allen Ramirez	Wood	4/22/22 15:45			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				EGA ONY	4-22-22 1548

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

182959

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 3 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 5310B (TOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li)	SM 2320B (CO3, HCO3 - Alk. as CaCO3)	SM 2320B (HCO3 - Alk. as CaCO3)	Sample Specific Notes:
CH-CCR-FAP-0422 -03 + 04	4/21/22	10:35	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	Surface Water Sample
CH-CCR-GeronimoC-0422 -05 + 06	4/20/22	15:25	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	Seepage Pump Port Sample
CH-CCR-GeronimoD-0422 -07 + 08	4/20/22	15:55	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	"
CH-CCR-HuntB-0422 -09 + 10	4/20/22	14:18	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	"
								1	4	4	4	4	4	4	1	1	2	2	3	3	4	1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.9°C ice CDS

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Adam Ramirez	Wood	4/22/22 15:48			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EEA Dmx	Date/Time: 4-22-22 1548

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

182959

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	3 of 3 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5410B (TOC)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	SM 2320B (CO3, HCO3 - Alk. as CaCO3)	Sample Specific Notes:
CH-CCR-BAP-0422 -11 + 12	4/21/22	13:40	C	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	Surface Water Sample
CH-CCR-BAPTD-0422 -13 + 14	4/21/22	15:50	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	Seepage Pump Port Sample
CH-CCR-Petroglyph-0422 -15 + 16	4/21/2022	14:56	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TannerWash-0422 -17 + 18	4/21/2022	14:15	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	1	1	2	2	3	3	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.9°C ice CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Adam Ramirez		4/22/22 15:48			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EEA [illegible]	Date/Time: 4-22-22 1548

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-182959-2

Login Number: 182959
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-182959-2

Login Number: 182959
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 04/26/22 06:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-182959-3
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
5/6/2022 5:24:32 PM

Rachel Sester, Project Manager I
(602)659-7615
Rachel.Sester@et.eurofinsus.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
B7	Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above the concentration found in the blank.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-182959-3

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-182959-3

Comments
No additional comments.

Receipt
The samples were received on 4/22/2022 3:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.9º C.

Receipt Exceptions
The containers received in Denver were received 1/4 full.

CH-CCR-CR1R-0422 (550-182959-1), CH-CCR-CR1R-0422 (550-182959-1[MS]), CH-CCR-CR1R-0422 (550-182959-1[MSD]), CH-CCR-FD02-0422 (550-182959-2), CH-CCR-FAP-0422 (550-182959-3), CH-CCR-GeronimoC-0422 (550-182959-5), CH-CCR-GeronimoD-0422 (550-182959-7), CH-CCR-HuntB-0422 (550-182959-9), CH-CCR-BAP-0422 (550-182959-11), CH-CCR-BAPTD-0422 (550-182959-13), CH-CCR-Petroglyph-0422 (550-182959-15) and CH-CCR-TannerWash-0422 (550-182959-17)

HPLC/IC
Method 300.0: The results for the source sample and the matrix spike / matrix spike duplicate (MS/MSD) associated with analytical batch 550-272515 for Sulfate by method EPA 300.0 could not be reported due to the analyte in the diluted sample exceeding the low end of the instrument calibration range. As such, reanalysis at a lower dilution was required and a result could not be reported for the associated source sample. The results for the batch laboratory control sample / laboratory sample control duplicate (LCS/LCSD) met method acceptance criteria and may be used to verify accuracy and precision. Therefore, the following sample results have been reported and qualified with N1 flags.

CH-CCR-BAP-0422 (550-182959-11), CH-CCR-BAPTD-0422 (550-182959-13), CH-CCR-Petroglyph-0422 (550-182959-15) and CH-CCR-TannerWash-0422 (550-182959-17)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-272866 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 550-273518 were outside control limits for DOC. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-182959-11	CH-CCR-BAP-0422	Water	04/21/22 13:40	04/22/22 15:48
550-182959-12	CH-CCR-BAP-0422	Water	04/21/22 13:40	04/22/22 15:48
550-182959-13	CH-CCR-BAPTD-0422	Water	04/21/22 15:50	04/22/22 15:48
550-182959-14	CH-CCR-BAPTD-0422	Water	04/21/22 15:50	04/22/22 15:48
550-182959-15	CH-CCR-Petroglyph-0422	Water	04/21/22 14:56	04/22/22 15:48
550-182959-16	CH-CCR-Petroglyph-0422	Water	04/21/22 14:56	04/22/22 15:48
550-182959-17	CH-CCR-TannerWash-0422	Water	04/21/22 14:15	04/22/22 15:48
550-182959-18	CH-CCR-TannerWash-0422	Water	04/21/22 14:15	04/22/22 15:48

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-BAP-0422 — Lab Sample ID: 550-182959-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2700	D2 N1	400	85	mg/L	200		300.0	Total/NA
Lithium	0.16		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.1		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	530		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.34		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	270		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.060		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	25		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1200	B7	1.0	0.061	mg/L	2		200.7 Rev 4.4	Total/NA
Antimony	0.00015	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.011		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000090	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.011		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0030		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0018		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.036		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	170		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	7.3		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6500	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	8.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.5		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.5		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.5		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-BAP-0422 — Lab Sample ID: 550-182959-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.037	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.049		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.022		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00059		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-BAPTD-0422 — Lab Sample ID: 550-182959-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.7	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3200	D2 N1	400	85	mg/L	200		300.0	Total/NA
Lithium	0.24		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.3		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.57		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	260		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-BAPTD-0422 (Continued) — Lab Sample ID: 550-182959-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	14		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800	B7	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000047	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0022		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0094		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00047		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0013		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0097		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0018		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.018		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0013		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Ammonia	0.082		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8400	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.3		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.3		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-BAPTD-0422 — Lab Sample ID: 550-182959-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.22		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0019		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0096		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-Petroglyph-0422 — Lab Sample ID: 550-182959-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.29	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3100	D2 N1	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.7		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.059	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	B7	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0032		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0056		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00016		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.00068	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.017		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-Petroglyph-0422 (Continued) — Lab Sample ID: 550-182959-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	0.023		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00093		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000025	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.056		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	78		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	78		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7600	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.0		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.0		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.0		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-Petroglyph-0422 — Lab Sample ID: 550-182959-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.035	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0032		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.018		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TannerWash-0422 — Lab Sample ID: 550-182959-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3300	D2 N1	400	85	mg/L	200		300.0	Total/NA
Lithium	0.23		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.2		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	650		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.72		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	270		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	16		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	B7	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000051	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0029		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0059		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00021		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0024		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.015		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00052		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.042		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00098		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000020	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.13		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	98		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	98		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7700	D2	100	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-TannerWash-0422 (Continued) — Lab Sample ID: 550-182959-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TannerWash-0422 — Lab Sample ID: 550-182959-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.26		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0021		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.014		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-BAP-0422

Lab Sample ID: 550-182959-11

Date Collected: 04/21/22 13:40
Date Received: 04/22/22 15:48

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700	D2	400	100	mg/L			04/26/22 02:22	200
Fluoride	3.5	D1	0.80	0.095	mg/L			04/26/22 02:04	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/03/22 00:54	5
Sulfate	2700	D2 N1	400	85	mg/L			04/26/22 02:22	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 20:07	1
Lithium	0.16		0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 11:57	1
Boron	3.1		0.050	0.0025	mg/L		04/25/22 09:14	04/27/22 20:07	1
Calcium	530		2.0	0.013	mg/L		04/25/22 09:14	04/27/22 20:07	1
Iron	0.34		0.10	0.010	mg/L		04/25/22 09:14	04/27/22 20:07	1
Magnesium	270		2.0	0.044	mg/L		04/25/22 09:14	04/27/22 20:07	1
Manganese	0.060		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 20:07	1
Potassium	25		0.50	0.17	mg/L		04/25/22 09:14	04/27/22 20:07	1
Sodium	1200	B7	1.0	0.061	mg/L		04/25/22 09:14	04/29/22 21:11	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00015	E4	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 21:01	1
Arsenic	0.011		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 21:01	1
Barium	0.012		0.00050	0.00026	mg/L		04/25/22 06:47	04/28/22 16:38	1
Cadmium	0.000090	E4	0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 21:01	1
Chromium	0.011		0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 21:01	1
Cobalt	0.0030		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 21:01	1
Lead	0.0018		0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 21:01	1
Molybdenum	0.036		0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 21:01	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/25/22 06:47	04/30/22 12:51	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 21:01	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/28/22 09:31	1
Alkalinity as CaCO3	170		6.0	6.0	mg/L			04/25/22 16:41	1
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L			04/25/22 16:41	1
Carbonate Alkalinity as CaCO3	7.3		6.0	6.0	mg/L			04/25/22 16:41	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/25/22 16:41	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:41	1
Total Dissolved Solids	6500	D2	100	100	mg/L			04/25/22 10:06	1
pH	8.4	H5	1.7	1.7	SU			04/26/22 20:21	1
Temperature	11.9	H5	0.1	0.1	Degrees C			04/26/22 20:21	1
Total Organic Carbon	2.5		0.50	0.26	mg/L			05/06/22 10:38	1
Total Organic Carbon - Duplicates	2.5		0.50	0.26	mg/L			05/06/22 10:38	1
Total Organic Carbon - Quad	2.5		0.50	0.26	mg/L			05/06/22 10:38	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-BAP-0422

Lab Sample ID: 550-182959-12
Date Collected: 04/21/22 13:40
Matrix: Water
Date Received: 04/22/22 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.037	E4	0.10	0.010	mg/L		04/25/22 09:14	04/27/22 20:10	1
Manganese	0.049		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 20:10	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.022		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 21:03	1
Cobalt	0.00059		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 21:03	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L			05/05/22 20:31	1
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L			05/05/22 20:31	1
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L			05/05/22 20:31	1

Client Sample ID: CH-CCR-BAPTD-0422

Lab Sample ID: 550-182959-13
Date Collected: 04/21/22 15:50
Matrix: Water
Date Received: 04/22/22 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	400	100	mg/L			04/26/22 03:54	200
Fluoride	2.7	D1	0.80	0.095	mg/L			04/26/22 03:36	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/29/22 22:33	5
Sulfate	3200	D2 N1	400	85	mg/L			04/26/22 03:54	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 20:12	1
Lithium	0.24		0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 12:01	1
Boron	4.3		0.050	0.0025	mg/L		04/25/22 09:14	04/27/22 20:12	1
Calcium	670		2.0	0.013	mg/L		04/25/22 09:14	04/27/22 20:12	1
Iron	0.57		0.10	0.010	mg/L		04/25/22 09:14	04/27/22 20:12	1
Magnesium	260		2.0	0.044	mg/L		04/25/22 09:14	04/27/22 20:12	1
Manganese	2.1		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 20:12	1
Potassium	14		0.50	0.17	mg/L		04/25/22 09:14	04/27/22 20:12	1
Sodium	1800	B7	2.5	0.15	mg/L		04/25/22 09:14	04/29/22 21:13	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000047	E4	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 21:05	1
Arsenic	0.0022		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 21:05	1
Barium	0.0094		0.00050	0.00026	mg/L		04/25/22 06:47	04/28/22 16:40	1
Cadmium	0.00047		0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 21:05	1
Chromium	0.0013		0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 21:05	1
Cobalt	0.0097		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 21:05	1
Lead	0.0018		0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 21:05	1
Molybdenum	0.018		0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 21:05	1
Selenium	0.0013		0.00050	0.000074	mg/L		04/25/22 06:47	04/30/22 12:53	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 21:05	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-BAPTD-0422

Lab Sample ID: 550-182959-13
Date Collected: 04/21/22 15:50
Matrix: Water
Date Received: 04/22/22 15:48

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.082		0.050	0.039	mg/L			04/28/22 09:33	1
Alkalinity as CaCO3	160		6.0	6.0	mg/L			04/25/22 16:48	1
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L			04/25/22 16:48	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:48	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/25/22 16:48	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:48	1
Total Dissolved Solids	8400	D2	100	100	mg/L			04/25/22 10:06	1
pH	7.5	H5	1.7	1.7	SU			04/26/22 20:21	1
Temperature	12.6	H5	0.1	0.1	Degrees C			04/26/22 20:21	1
Total Organic Carbon	1.3		0.50	0.26	mg/L			05/06/22 10:49	1
Total Organic Carbon - Duplicates	1.3		0.50	0.26	mg/L			05/06/22 10:49	1
Total Organic Carbon - Quad	1.3		0.50	0.26	mg/L			05/06/22 10:49	1

Client Sample ID: CH-CCR-BAPTD-0422

Lab Sample ID: 550-182959-14
Date Collected: 04/21/22 15:50
Matrix: Water
Date Received: 04/22/22 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.22		0.10	0.010	mg/L		04/25/22 09:14	04/27/22 20:15	1
Manganese	2.1		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 20:15	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0019		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 21:07	1
Cobalt	0.0096		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 21:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L			05/05/22 20:42	1
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L			05/05/22 20:42	1
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L			05/05/22 20:42	1

Client Sample ID: CH-CCR-Petroglyph-0422

Lab Sample ID: 550-182959-15
Date Collected: 04/21/22 14:56
Matrix: Water
Date Received: 04/22/22 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	100	mg/L			04/26/22 04:31	200
Fluoride	3.4	D1	0.80	0.095	mg/L			04/26/22 04:13	2
Nitrate Nitrite as N	0.29	D1	0.25	0.11	mg/L			04/29/22 22:05	5
Sulfate	3100	D2 N1	400	85	mg/L			04/26/22 04:31	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 20:18	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-Petroglyph-0422

Lab Sample ID: 550-182959-15
Matrix: Water
Date Collected: 04/21/22 14:56
Date Received: 04/22/22 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.20		0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 12:05	1
Boron	3.7		0.050	0.0025	mg/L		04/25/22 09:14	04/27/22 20:18	1
Calcium	680		2.0	0.013	mg/L		04/25/22 09:14	04/27/22 20:18	1
Iron	0.059	E4	0.10	0.010	mg/L		04/25/22 09:14	04/27/22 20:18	1
Magnesium	240		2.0	0.044	mg/L		04/25/22 09:14	04/27/22 20:18	1
Manganese	1.2		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 20:18	1
Potassium	15		0.50	0.17	mg/L		04/25/22 09:14	04/27/22 20:18	1
Sodium	1500	B7	2.5	0.15	mg/L		04/25/22 09:14	04/29/22 21:16	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 21:09	1
Arsenic	0.0032		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 21:09	1
Barium	0.0056		0.00050	0.00026	mg/L		04/25/22 06:47	04/28/22 16:43	1
Cadmium	0.00016		0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 21:09	1
Chromium	0.00068	E4	0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 21:09	1
Cobalt	0.017		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 21:09	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 21:09	1
Molybdenum	0.023		0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 21:09	1
Selenium	0.00093		0.00050	0.000074	mg/L		04/25/22 06:47	04/30/22 12:55	1
Thallium	0.000025	E4	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 21:09	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.056		0.050	0.039	mg/L			04/28/22 09:34	1
Alkalinity as CaCO3	78		6.0	6.0	mg/L			04/25/22 16:55	1
Bicarbonate Alkalinity as CaCO3	78		6.0	6.0	mg/L			04/25/22 16:55	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:55	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/25/22 16:55	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 16:55	1
Total Dissolved Solids	7600	D2	100	100	mg/L			04/25/22 13:55	1
pH	7.5	H5	1.7	1.7	SU			04/26/22 20:21	1
Temperature	14.5	H5	0.1	0.1	Degrees C			04/26/22 20:21	1
Total Organic Carbon	1.0		0.50	0.26	mg/L			05/06/22 11:02	1
Total Organic Carbon - Duplicates	1.0		0.50	0.26	mg/L			05/06/22 11:02	1
Total Organic Carbon - Quad	1.0		0.50	0.26	mg/L			05/06/22 11:02	1

Client Sample ID: CH-CCR-Petroglyph-0422

Lab Sample ID: 550-182959-16
Matrix: Water
Date Collected: 04/21/22 14:56
Date Received: 04/22/22 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.035	E4	0.10	0.010	mg/L		04/25/22 09:14	04/27/22 20:20	1
Manganese	1.1		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 20:20	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-Petroglyph-0422

Lab Sample ID: 550-182959-16
Date Collected: 04/21/22 14:56
Matrix: Water
Date Received: 04/22/22 15:48

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0032		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 21:11	1
Cobalt	0.018		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 21:11	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0		0.50	0.26	mg/L			05/05/22 20:55	1
Dissolved Organic Carbon - Duplicate	1.0		0.50	0.26	mg/L			05/05/22 20:55	1
Dissolved Organic Carbon - Quad	1.0		0.50	0.26	mg/L			05/05/22 20:55	1

Client Sample ID: CH-CCR-TannerWash-0422

Lab Sample ID: 550-182959-17
Date Collected: 04/21/22 14:15
Matrix: Water
Date Received: 04/22/22 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	100	mg/L			04/26/22 05:08	200
Fluoride	3.6	D1	0.80	0.095	mg/L			04/26/22 04:49	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/29/22 21:37	5
Sulfate	3300	D2 N1	400	85	mg/L			04/26/22 05:08	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 20:23	1
Lithium	0.23		0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 12:09	1
Boron	4.2		0.050	0.0025	mg/L		04/25/22 09:14	04/27/22 20:23	1
Calcium	650		2.0	0.013	mg/L		04/25/22 09:14	04/27/22 20:23	1
Iron	0.72		0.10	0.010	mg/L		04/25/22 09:14	04/27/22 20:23	1
Magnesium	270		2.0	0.044	mg/L		04/25/22 09:14	04/27/22 20:23	1
Manganese	1.5		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 20:23	1
Potassium	16		0.50	0.17	mg/L		04/25/22 09:14	04/27/22 20:23	1
Sodium	1600	B7	2.5	0.15	mg/L		04/25/22 09:14	04/29/22 21:18	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000051	E4	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 21:13	1
Arsenic	0.0029		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 21:13	1
Barium	0.0059		0.00050	0.00026	mg/L		04/25/22 06:47	04/28/22 16:45	1
Cadmium	0.00021		0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 21:13	1
Chromium	0.0024		0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 21:13	1
Cobalt	0.015		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 21:13	1
Lead	0.00052		0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 21:13	1
Molybdenum	0.042		0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 21:13	1
Selenium	0.00098		0.00050	0.000074	mg/L		04/25/22 06:47	04/30/22 12:57	1
Thallium	0.000020	E4	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 21:13	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:38	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-TannerWash-0422

Lab Sample ID: 550-182959-17

Date Collected: 04/21/22 14:15
Matrix: Water
Date Received: 04/22/22 15:48

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.13		0.050	0.039	mg/L			04/28/22 09:36	1
Alkalinity as CaCO3	98		6.0	6.0	mg/L			04/25/22 17:02	1
Bicarbonate Alkalinity as CaCO3	98		6.0	6.0	mg/L			04/25/22 17:02	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 17:02	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/25/22 17:02	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/25/22 17:02	1
Total Dissolved Solids	7700	D2	100	100	mg/L			04/25/22 13:55	1
pH	7.5	H5	1.7	1.7	SU			04/26/22 20:21	1
Temperature	13.6	H5	0.1	0.1	Degrees C			04/26/22 20:21	1
Total Organic Carbon	1.1		0.50	0.26	mg/L			05/06/22 11:15	1
Total Organic Carbon - Duplicates	1.1		0.50	0.26	mg/L			05/06/22 11:15	1
Total Organic Carbon - Quad	1.1		0.50	0.26	mg/L			05/06/22 11:15	1

Client Sample ID: CH-CCR-TannerWash-0422

Lab Sample ID: 550-182959-18

Date Collected: 04/21/22 14:15
Matrix: Water
Date Received: 04/22/22 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.26		0.10	0.010	mg/L		04/25/22 09:14	04/27/22 20:25	1
Manganese	1.5		0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 20:25	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0021		0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 21:15	1
Cobalt	0.014		0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 21:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			05/05/22 21:08	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			05/05/22 21:08	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			05/05/22 21:08	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-272515/1029 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/25/22 19:19	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/25/22 19:19	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/25/22 19:19	1

Lab Sample ID: LCS 550-272515/30 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.3		mg/L		106	90 - 110
Fluoride	4.00	4.09		mg/L		102	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-272515/31 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.3		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-182959-A-1 MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.38	E4 D1	8.00	8.71	D1	mg/L		104	80 - 120

Lab Sample ID: 550-182959-A-1 MS ^200 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	580	D2	4000	5010	D2	mg/L		111	80 - 120

Lab Sample ID: 550-182959-A-1 MSD ^2 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.38	E4 D1	8.00	8.72	D1	mg/L		104	80 - 120	0	20

Lab Sample ID: 550-182959-A-1 MSD ^200 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272515

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	580	D2	4000	5000	D2	mg/L		110	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-272933/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272933

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			04/29/22 10:55	1

Lab Sample ID: LCS 550-272933/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	8.00	8.08		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-272933/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272933

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	8.09		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-183242-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272933

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.7		8.00	14.0		mg/L		103	80 - 120

Lab Sample ID: 550-183242-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272933

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	5.7		8.00	13.8		mg/L		101	80 - 120	1	20

Lab Sample ID: MB 550-273077/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			05/02/22 11:24	1

Lab Sample ID: LCS 550-273077/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273077

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	8.00	8.11		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-273077/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273077

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	8.13		mg/L		102	90 - 110	0	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 550-183314-A-1 MS
Matrix: Water
Analysis Batch: 273077

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	11		8.00	19.0		mg/L		99	80 - 120

Lab Sample ID: 550-183314-A-1 MSD
Matrix: Water
Analysis Batch: 273077

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	11		8.00	19.0		mg/L		99	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-272450/1-A
Matrix: Water
Analysis Batch: 272866

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 272450

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/27/22 19:23	1
Boron	0.00665	E4	0.050	0.0025	mg/L		04/25/22 09:14	04/27/22 19:23	1
Calcium	ND	E8	2.0	0.013	mg/L		04/25/22 09:14	04/27/22 19:23	1
Magnesium	ND	E8	2.0	0.044	mg/L		04/25/22 09:14	04/27/22 19:23	1
Potassium	ND	E8	0.50	0.17	mg/L		04/25/22 09:14	04/27/22 19:23	1
Sodium	0.142	E4	0.50	0.031	mg/L		04/25/22 09:14	04/27/22 19:23	1
Iron	0.0240	E4	0.10	0.010	mg/L		04/25/22 09:14	04/27/22 19:23	1
Manganese	ND	E8	0.010	0.00019	mg/L		04/25/22 09:14	04/27/22 19:23	1

Lab Sample ID: MB 550-272450/1-A
Matrix: Water
Analysis Batch: 272972

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 272450

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/25/22 09:14	04/29/22 20:24	1
Boron	0.0111	E4	0.050	0.0025	mg/L		04/25/22 09:14	04/29/22 20:24	1
Calcium	0.102	E4	2.0	0.013	mg/L		04/25/22 09:14	04/29/22 20:24	1
Magnesium	0.0537	E4	2.0	0.044	mg/L		04/25/22 09:14	04/29/22 20:24	1
Potassium	0.392	E4	0.50	0.17	mg/L		04/25/22 09:14	04/29/22 20:24	1
Sodium	0.565	B1	0.50	0.031	mg/L		04/25/22 09:14	04/29/22 20:24	1
Iron	0.0258	E4	0.10	0.010	mg/L		04/25/22 09:14	04/29/22 20:24	1
Manganese	ND	E8	0.010	0.00019	mg/L		04/25/22 09:14	04/29/22 20:24	1

Lab Sample ID: LCS 550-272450/2-A
Matrix: Water
Analysis Batch: 272866

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.942		mg/L		94	85 - 115
Boron	1.00	0.951		mg/L		95	85 - 115
Calcium	21.0	19.8		mg/L		94	85 - 115
Magnesium	21.0	19.0		mg/L		90	85 - 115
Potassium	20.0	18.4		mg/L		92	85 - 115
Sodium	20.0	18.3		mg/L		91	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-272450/2-A
Matrix: Water
Analysis Batch: 272866

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	0.926		mg/L		93	85 - 115
Manganese	1.00	0.925		mg/L		93	85 - 115

Lab Sample ID: LCS 550-272450/2-A
Matrix: Water
Analysis Batch: 272972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.963		mg/L		96	85 - 115
Boron	1.00	0.933		mg/L		93	85 - 115
Calcium	21.0	20.1		mg/L		96	85 - 115
Magnesium	21.0	19.4		mg/L		92	85 - 115
Potassium	20.0	18.6		mg/L		93	85 - 115
Sodium	20.0	18.9		mg/L		94	85 - 115
Iron	1.00	0.929		mg/L		93	85 - 115
Manganese	1.00	0.939		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-272450/3-A
Matrix: Water
Analysis Batch: 272866

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 272450

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.993		mg/L		99	85 - 115	5	20
Boron	1.00	0.973		mg/L		97	85 - 115	2	20
Calcium	21.0	20.8		mg/L		99	85 - 115	5	20
Magnesium	21.0	20.0		mg/L		95	85 - 115	5	20
Potassium	20.0	19.4		mg/L		97	85 - 115	5	20
Sodium	20.0	19.1		mg/L		96	85 - 115	5	20
Iron	1.00	0.974		mg/L		97	85 - 115	5	20
Manganese	1.00	0.950		mg/L		95	85 - 115	3	20

Lab Sample ID: LCSD 550-272450/3-A
Matrix: Water
Analysis Batch: 272972

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 272450

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.988		mg/L		99	85 - 115	3	20
Boron	1.00	0.971		mg/L		97	85 - 115	4	20
Calcium	21.0	20.6		mg/L		98	85 - 115	2	20
Magnesium	21.0	19.9		mg/L		95	85 - 115	2	20
Potassium	20.0	18.9		mg/L		95	85 - 115	2	20
Sodium	20.0	19.2		mg/L		96	85 - 115	2	20
Iron	1.00	0.950		mg/L		95	85 - 115	2	20
Manganese	1.00	0.980		mg/L		98	85 - 115	4	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-182959-E-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND	E8	1.00	1.01		mg/L		101	70 - 130
Boron	0.14		1.00	1.12		mg/L		97	70 - 130
Calcium	100		21.0	122	M3	mg/L		90	70 - 130
Magnesium	41		21.0	60.0		mg/L		90	70 - 130
Potassium	3.6		20.0	23.5		mg/L		100	70 - 130
Sodium	350	M3	20.0	364	M3	mg/L		50	70 - 130
Iron	0.21		1.00	1.18		mg/L		97	70 - 130
Manganese	0.73		1.00	1.62		mg/L		89	70 - 130

Lab Sample ID: 550-182959-E-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272972 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND	E8	1.00	0.970		mg/L		97	70 - 130
Boron	0.15		1.00	1.12		mg/L		97	70 - 130
Calcium	100	M3	21.0	116	M3	mg/L		65	70 - 130
Magnesium	41		21.0	57.8		mg/L		79	70 - 130
Potassium	3.5		20.0	22.3		mg/L		94	70 - 130
Sodium	350	B1 M3	20.0	348	M3	mg/L		-23	70 - 130
Iron	0.20		1.00	1.11		mg/L		91	70 - 130
Manganese	0.76		1.00	1.68		mg/L		93	70 - 130

Lab Sample ID: 550-182959-E-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272866 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND	E8	1.00	1.02		mg/L		102	70 - 130	1	20
Boron	0.14		1.00	1.13		mg/L		98	70 - 130	1	20
Calcium	100		21.0	122	M3	mg/L		90	70 - 130	0	20
Magnesium	41		21.0	60.5		mg/L		93	70 - 130	1	20
Potassium	3.6		20.0	23.7		mg/L		101	70 - 130	1	20
Sodium	350	M3	20.0	366	M3	mg/L		61	70 - 130	1	20
Iron	0.21		1.00	1.20		mg/L		99	70 - 130	2	20
Manganese	0.73		1.00	1.64		mg/L		91	70 - 130	1	20

Lab Sample ID: 550-182959-E-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272972 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND	E8	1.00	0.999		mg/L		100	70 - 130	3	20
Boron	0.15		1.00	1.13		mg/L		98	70 - 130	1	20
Calcium	100	M3	21.0	119	M3	mg/L		79	70 - 130	3	20
Magnesium	41		21.0	59.5		mg/L		87	70 - 130	3	20
Potassium	3.5		20.0	22.8		mg/L		96	70 - 130	2	20
Sodium	350	B1 M3	20.0	359	M3	mg/L		30	70 - 130	3	20
Iron	0.20		1.00	1.15		mg/L		95	70 - 130	4	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-182959-E-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272972 — **Prep Batch: 272450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Manganese	0.76		1.00	1.70		mg/L		94	70 - 130	1	20

Lab Sample ID: MB 280-573141/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		04/27/22 10:56	04/28/22 10:16	1

Lab Sample ID: LCS 280-573141/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.986		mg/L		99	90 - 112

Lab Sample ID: 550-182959-F-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.033		1.00	1.03		mg/L		100	70 - 130

Lab Sample ID: 550-182959-F-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 573293 — **Prep Batch: 573141**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.033		1.00	1.04		mg/L		100	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-272434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/25/22 06:47	04/27/22 20:25	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/25/22 06:47	04/27/22 20:25	1
Cadmium	0.0000240	E4	0.00010	0.000023	mg/L		04/25/22 06:47	04/27/22 20:25	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/25/22 06:47	04/27/22 20:25	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/25/22 06:47	04/27/22 20:25	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/25/22 06:47	04/27/22 20:25	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/25/22 06:47	04/27/22 20:25	1
Thallium	0.0000180	E4	0.00010	0.000013	mg/L		04/25/22 06:47	04/27/22 20:25	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-272434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND	E8	0.00050	0.00026	mg/L		04/25/22 06:47	04/28/22 16:07	1

Lab Sample ID: MB 550-272434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	E8	0.00050	0.000074	mg/L		04/25/22 06:47	04/30/22 12:20	1

Lab Sample ID: LCS 550-272434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0962		mg/L		96	85 - 115
Arsenic	0.100	0.0956		mg/L		96	85 - 115
Cadmium	0.100	0.0971		mg/L		97	85 - 115
Chromium	0.100	0.100		mg/L		100	85 - 115
Cobalt	0.100	0.105		mg/L		105	85 - 115
Lead	0.100	0.0978		mg/L		98	85 - 115
Molybdenum	0.100	0.100		mg/L		100	85 - 115
Thallium	0.100	0.0958		mg/L		96	85 - 115

Lab Sample ID: LCS 550-272434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.106		mg/L		106	85 - 115

Lab Sample ID: LCS 550-272434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.0978		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-272434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0939		mg/L		94	85 - 115	2	20
Arsenic	0.100	0.0953		mg/L		95	85 - 115	0	20
Cadmium	0.100	0.0949		mg/L		95	85 - 115	2	20
Chromium	0.100	0.0988		mg/L		99	85 - 115	2	20
Cobalt	0.100	0.109		mg/L		109	85 - 115	4	20
Lead	0.100	0.0950		mg/L		95	85 - 115	3	20
Molybdenum	0.100	0.0965		mg/L		96	85 - 115	4	20
Thallium	0.100	0.0920		mg/L		92	85 - 115	4	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: LCSD 550-272434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium			0.100	0.111		mg/L		111	85 - 115	5	20

Lab Sample ID: LCSD 550-272434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium			0.100	0.100		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-182959-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	0.000051	E4	0.100	0.0997		mg/L		100	70 - 130		
Arsenic	ND	E8	0.100	0.0999		mg/L		100	70 - 130		
Cadmium	0.000035	E4	0.100	0.0940		mg/L		94	70 - 130		
Chromium	0.0035		0.100	0.101		mg/L		97	70 - 130		
Cobalt	0.00014	E4	0.100	0.101		mg/L		101	70 - 130		
Lead	ND	E8	0.100	0.0898		mg/L		90	70 - 130		
Molybdenum	0.0031		0.100	0.108		mg/L		104	70 - 130		
Thallium	0.000098	E4	0.100	0.0898		mg/L		90	70 - 130		

Lab Sample ID: 550-182959-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Barium	0.074		0.100	0.190		mg/L		116	70 - 130		

Lab Sample ID: 550-182959-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Selenium	0.00011	E4	0.100	0.100		mg/L		100	70 - 130		

Lab Sample ID: 550-182959-E-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272751 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.000051	E4	0.100	0.0931		mg/L		93	70 - 130	7	20
Arsenic	ND	E8	0.100	0.0975		mg/L		98	70 - 130	2	20
Cadmium	0.000035	E4	0.100	0.0876		mg/L		88	70 - 130	7	20
Chromium	0.0035		0.100	0.0968		mg/L		93	70 - 130	4	20
Cobalt	0.00014	E4	0.100	0.0986		mg/L		98	70 - 130	3	20
Lead	ND	E8	0.100	0.0899		mg/L		90	70 - 130	0	20
Molybdenum	0.0031		0.100	0.103		mg/L		99	70 - 130	5	20
Thallium	0.000098	E4	0.100	0.0895		mg/L		89	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: 550-182959-E-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272855 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.074		0.100	0.178		mg/L		105	70 - 130	6	20

Lab Sample ID: 550-182959-E-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272988 — **Prep Batch: 272434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.00011	E4	0.100	0.0987		mg/L		99	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-272719/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		04/27/22 17:18	04/27/22 22:10	1

Lab Sample ID: LCS 550-272719/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hg	0.00500	0.00492		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-272719/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	0.00500	0.00495		mg/L		99	85 - 115	1	20

Lab Sample ID: 550-182959-E-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hg	ND	E8	0.00500	0.00558		mg/L		112	70 - 130

Lab Sample ID: 550-182959-E-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272735 — **Prep Batch: 272719**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00572		mg/L		114	70 - 130	2	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-272773/60
Matrix: Water
Analysis Batch: 272773

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/28/22 09:16	1

Lab Sample ID: LCS 550-272773/61
Matrix: Water
Analysis Batch: 272773

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.994		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-272773/62
Matrix: Water
Analysis Batch: 272773

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.988		mg/L		99	90 - 110	1	20

Lab Sample ID: 550-182947-F-1 MS
Matrix: Water
Analysis Batch: 272773

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.1	M2	1.00	1.84	M2	mg/L		78	90 - 110

Lab Sample ID: 550-182947-F-1 MSD
Matrix: Water
Analysis Batch: 272773

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.1	M2	1.00	1.99		mg/L		93	90 - 110	8	20

Method: SM 2320B - Alkalinity

Lab Sample ID: LCSD 550-272508/15
Matrix: Water
Analysis Batch: 272508

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	243		mg/L		97	90 - 110	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-272456/1
Matrix: Water
Analysis Batch: 272456

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/25/22 13:55	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 550-272456/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272456

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	990		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-272456/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272456

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	994		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-182961-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272456

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	4200	D2		3990	D2	mg/L				4	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-272627/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272627

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.9		SU		98.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-272627/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272627

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.9		SU		98.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-272627/24 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272627

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.9		SU		98.9	98.5 - 101.5		

Lab Sample ID: 550-182959-15 DU — **Client Sample ID: CH-CCR-Petroglyph-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272627

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.5	H5		7.5	H5	SU				0.1	5
Temperature	14.5	H5		13.9	H5	Degrees C				4	

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-182959-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 272627

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	H5	7.8	H5	SU		0	5
Temperature	13.5	H5	12.7	H5	Degrees C		6	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-273519/65 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273519

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			05/06/22 07:51	1
Total Organic Carbon - Duplicates	ND	E8	0.50	0.26	mg/L			05/06/22 07:51	1
Total Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			05/06/22 07:51	1

Lab Sample ID: LCS 550-273519/66 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273519

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	20.0	19.9		mg/L		99	90 - 110
Total Organic Carbon - Duplicates	20.0	19.9		mg/L		99	90 - 110
Total Organic Carbon - Quad	20.0	19.9		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-273519/67 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273519

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	20.0	18.8		mg/L		94	90 - 110	6	20
Total Organic Carbon - Duplicates	20.0	18.8		mg/L		94	90 - 110	6	20
Total Organic Carbon - Quad	20.0	18.8		mg/L		94	90 - 110	6	20

Lab Sample ID: 550-182891-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	9.3		20.0	28.7		mg/L		97	90 - 110
Total Organic Carbon - Duplicates	9.3		20.0	28.7		mg/L		97	90 - 110
Total Organic Carbon - Quad	9.3		20.0	28.7		mg/L		97	90 - 110

Lab Sample ID: 550-182891-C-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	9.3		20.0	28.7		mg/L		97	90 - 110	0	20

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 550-182891-C-1 MSD
Matrix: Water
Analysis Batch: 273519

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	9.3		20.0	28.7		mg/L		97	90 - 110	0	20
Total Organic Carbon - Quad	9.3		20.0	28.7		mg/L		97	90 - 110	0	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-273420/1-A
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			05/05/22 19:00	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			05/05/22 19:00	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			05/05/22 19:00	1

Lab Sample ID: LCS 550-273518/6
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	19.4		mg/L		97	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	19.4		mg/L		97	90 - 110
Dissolved Organic Carbon - Quad	20.0	19.4		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-273518/7
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.5		mg/L		92	90 - 110	5	20
Dissolved Organic Carbon - Duplicate	20.0	18.5		mg/L		92	90 - 110	5	20
Dissolved Organic Carbon - Quad	20.0	18.5		mg/L		92	90 - 110	5	20

Lab Sample ID: 550-182959-A-4 MS ^4
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	140	M2 D2	80.0	171	D2 M2	mg/L		44	90 - 110
Dissolved Organic Carbon - Duplicate	140	M2 D2	80.0	171	D2 M2	mg/L		44	90 - 110
Dissolved Organic Carbon - Quad	140	M2 D2	80.0	171	D2 M2	mg/L		44	90 - 110

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-182959-A-4 MSD ^4
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	140	M2 D2	80.0	172	D2 M2	mg/L		45	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	140	M2 D2	80.0	172	D2 M2	mg/L		45	90 - 110	1	20
Dissolved Organic Carbon - Quad	140	M2 D2	80.0	172	D2 M2	mg/L		45	90 - 110	1	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

HPLC/IC

Analysis Batch: 272515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	300.0	
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	300.0	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	300.0	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	300.0	
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	300.0	
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	300.0	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	300.0	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	300.0	
MB 550-272515/1029	Method Blank	Total/NA	Water	300.0	
LCS 550-272515/30	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-272515/31	Lab Control Sample Dup	Total/NA	Water	300.0	
550-182959-A-1 MS ^2	Matrix Spike	Total/NA	Water	300.0	
550-182959-A-1 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-182959-A-1 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-182959-A-1 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 272933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	300.0	
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	300.0	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	300.0	
MB 550-272933/2	Method Blank	Total/NA	Water	300.0	
LCS 550-272933/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-272933/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183242-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-183242-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 273077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	300.0	
MB 550-273077/2	Method Blank	Total/NA	Water	300.0	
LCS 550-273077/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-273077/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183314-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-183314-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 272434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	200.8	
550-182959-12	CH-CCR-BAP-0422	Dissolved	Water	200.8	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	200.8	
550-182959-14	CH-CCR-BAPTD-0422	Dissolved	Water	200.8	
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	200.8	
550-182959-16	CH-CCR-Petroglyph-0422	Dissolved	Water	200.8	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	200.8	
550-182959-18	CH-CCR-TannerWash-0422	Dissolved	Water	200.8	
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 272434 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-E-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-182959-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 272450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	200.7	
550-182959-12	CH-CCR-BAP-0422	Dissolved	Water	200.7	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	200.7	
550-182959-14	CH-CCR-BAPTD-0422	Dissolved	Water	200.7	
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	200.7	
550-182959-16	CH-CCR-Petroglyph-0422	Dissolved	Water	200.7	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	200.7	
550-182959-18	CH-CCR-TannerWash-0422	Dissolved	Water	200.7	
MB 550-272450/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-272450/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-272450/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-182959-E-1-D MS	Matrix Spike	Total/NA	Water	200.7	
550-182959-E-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 272719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	245.1	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	245.1	
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	245.1	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	245.1	
MB 550-272719/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-272719/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-272719/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-182959-E-1-G MS	Matrix Spike	Total/NA	Water	245.1	
550-182959-E-1-H MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 272735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	245.1	272719
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	245.1	272719
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	245.1	272719
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	245.1	272719
MB 550-272719/1-A	Method Blank	Total/NA	Water	245.1	272719
LCS 550-272719/2-A	Lab Control Sample	Total/NA	Water	245.1	272719
LCSD 550-272719/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	272719
550-182959-E-1-G MS	Matrix Spike	Total/NA	Water	245.1	272719
550-182959-E-1-H MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	272719

Analysis Batch: 272751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	200.8 LL	272434
550-182959-12	CH-CCR-BAP-0422	Dissolved	Water	200.8 LL	272434
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	200.8 LL	272434
550-182959-14	CH-CCR-BAPTD-0422	Dissolved	Water	200.8 LL	272434
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	200.8 LL	272434
550-182959-16	CH-CCR-Petroglyph-0422	Dissolved	Water	200.8 LL	272434

Metals (Continued)

Analysis Batch: 272751 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	200.8 LL	272434
550-182959-18	CH-CCR-TannerWash-0422	Dissolved	Water	200.8 LL	272434
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8 LL	272434
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272434
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272434
550-182959-E-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	272434
550-182959-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	272434

Analysis Batch: 272855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	200.8 LL	272434
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	200.8 LL	272434
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	200.8 LL	272434
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	200.8 LL	272434
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8 LL	272434
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272434
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272434
550-182959-E-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	272434
550-182959-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	272434

Analysis Batch: 272866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-12	CH-CCR-BAP-0422	Dissolved	Water	200.7 Rev 4.4	272450
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-14	CH-CCR-BAPTD-0422	Dissolved	Water	200.7 Rev 4.4	272450
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-16	CH-CCR-Petroglyph-0422	Dissolved	Water	200.7 Rev 4.4	272450
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-18	CH-CCR-TannerWash-0422	Dissolved	Water	200.7 Rev 4.4	272450
MB 550-272450/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272450
LCS 550-272450/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272450
LCSD 550-272450/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-E-1-D MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-E-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	272450

Analysis Batch: 272972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	200.7 Rev 4.4	272450
MB 550-272450/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272450
LCS 550-272450/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272450
LCSD 550-272450/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-E-1-D MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	272450
550-182959-E-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	272450

Analysis Batch: 272988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	200.8 LL	272434

Metals (Continued)

Analysis Batch: 272988 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	200.8 LL	272434
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	200.8 LL	272434
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	200.8 LL	272434
MB 550-272434/1-A	Method Blank	Total/NA	Water	200.8 LL	272434
LCS 550-272434/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272434
LCSD 550-272434/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272434
550-182959-E-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	272434
550-182959-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	272434

Prep Batch: 573141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	200.7	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	200.7	
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	200.7	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	200.7	
MB 280-573141/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-573141/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-182959-F-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-182959-F-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 573293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	200.7 Rev 4.4	573141
MB 280-573141/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	573141
LCS 280-573141/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-F-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	573141
550-182959-F-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	573141

General Chemistry

Analysis Batch: 272455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	SM 2540C	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	SM 2540C	

Analysis Batch: 272456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	SM 2540C	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	SM 2540C	
MB 550-272456/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-272456/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-272456/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-182961-D-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 272508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	SM 2320B	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 272508 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	SM 2320B	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	SM 2320B	
LCSD 550-272508/15	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

Analysis Batch: 272627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	SM 4500 H+ B	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	SM 4500 H+ B	
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	SM 4500 H+ B	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272627/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272627/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272627/24	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-182959-15 DU	CH-CCR-Petroglyph-0422	Total/NA	Water	SM 4500 H+ B	
550-182959-B-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 272773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	350.1	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	350.1	
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	350.1	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	350.1	
MB 550-272773/60	Method Blank	Total/NA	Water	350.1	
LCS 550-272773/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-272773/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-182947-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-182947-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Filtration Batch: 273420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-273420/1-A	Method Blank	Dissolved	Water	Filtration	

Analysis Batch: 273518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-12	CH-CCR-BAP-0422	Dissolved	Water	SM 5310B	
550-182959-14	CH-CCR-BAPTD-0422	Dissolved	Water	SM 5310B	
550-182959-16	CH-CCR-Petroglyph-0422	Dissolved	Water	SM 5310B	
550-182959-18	CH-CCR-TannerWash-0422	Dissolved	Water	SM 5310B	
MB 550-273420/1-A	Method Blank	Dissolved	Water	SM 5310B	273420
LCS 550-273518/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-273518/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-182959-A-4 MS ^4	Matrix Spike	Dissolved	Water	SM 5310B	
550-182959-A-4 MSD ^4	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	

Analysis Batch: 273519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-182959-11	CH-CCR-BAP-0422	Total/NA	Water	SM 5310B	
550-182959-13	CH-CCR-BAPTD-0422	Total/NA	Water	SM 5310B	
550-182959-15	CH-CCR-Petroglyph-0422	Total/NA	Water	SM 5310B	
550-182959-17	CH-CCR-TannerWash-0422	Total/NA	Water	SM 5310B	
MB 550-273519/65	Method Blank	Total/NA	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 273519 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-273519/66	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-273519/67	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-182891-B-1 MS	Matrix Spike	Total/NA	Water	SM 5310B	
550-182891-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-BAP-0422

Lab Sample ID: 550-182959-11
Date Collected: 04/21/22 13:40
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	272515	04/26/22 02:04	AS1	TAL PHX
Total/NA	Analysis	300.0		200	272515	04/26/22 02:22	AS1	TAL PHX
Total/NA	Analysis	300.0		5	273077	05/03/22 00:54	AS1	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	272866	04/27/22 20:07	MGM	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	272972	04/29/22 21:11	MGM	TAL PHX
Total/NA	Prep	200.7			573141	04/27/22 10:56	MB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	573293	04/28/22 11:57	MAB	TAL DEN
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272751	04/27/22 21:01	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272855	04/28/22 16:38	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272988	04/30/22 12:51	ARE	TAL PHX
Total/NA	Prep	245.1			272719	04/27/22 17:18	SRR	TAL PHX
Total/NA	Analysis	245.1		1	272735	04/27/22 22:32	SRR	TAL PHX
Total/NA	Analysis	350.1		1	272773	04/28/22 09:31	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	272508	04/25/22 16:41	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	272455		CHS	TAL PHX
					(Start)	04/25/22 10:06		
					(End)	04/26/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	272627	04/26/22 20:21	CXK	TAL PHX
Total/NA	Analysis	SM 5310B		1	273519	05/06/22 10:38	MEG	TAL PHX

Client Sample ID: CH-CCR-BAP-0422

Lab Sample ID: 550-182959-12
Date Collected: 04/21/22 13:40
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	272866	04/27/22 20:10	MGM	TAL PHX
Dissolved	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	272751	04/27/22 21:03	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	273518	05/05/22 20:31	MEG	TAL PHX

Client Sample ID: CH-CCR-BAPTD-0422

Lab Sample ID: 550-182959-13
Date Collected: 04/21/22 15:50
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	272515	04/26/22 03:36	AS1	TAL PHX
Total/NA	Analysis	300.0		200	272515	04/26/22 03:54	AS1	TAL PHX
Total/NA	Analysis	300.0		5	272933	04/29/22 22:33	AS1	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-BAPTD-0422 — Lab Sample ID: 550-182959-13

Date Collected: 04/21/22 15:50
Date Received: 04/22/22 15:48
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	272866	04/27/22 20:12	MGM	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	272972	04/29/22 21:13	MGM	TAL PHX
Total/NA	Prep	200.7			573141	04/27/22 10:56	MB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	573293	04/28/22 12:01	MAB	TAL DEN
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272751	04/27/22 21:05	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272855	04/28/22 16:40	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272988	04/30/22 12:53	ARE	TAL PHX
Total/NA	Prep	245.1			272719	04/27/22 17:18	SRR	TAL PHX
Total/NA	Analysis	245.1		1	272735	04/27/22 22:34	SRR	TAL PHX
Total/NA	Analysis	350.1		1	272773	04/28/22 09:33	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	272508	04/25/22 16:48	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	272455		CHS	TAL PHX
					(Start)	04/25/22 10:06		
					(End)	04/26/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	272627	04/26/22 20:21	CXK	TAL PHX
Total/NA	Analysis	SM 5310B		1	273519	05/06/22 10:49	MEG	TAL PHX

Client Sample ID: CH-CCR-BAPTD-0422 — Lab Sample ID: 550-182959-14

Date Collected: 04/21/22 15:50
Date Received: 04/22/22 15:48
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	272866	04/27/22 20:15	MGM	TAL PHX
Dissolved	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	272751	04/27/22 21:07	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	273518	05/05/22 20:42	MEG	TAL PHX

Client Sample ID: CH-CCR-Petroglyph-0422 — Lab Sample ID: 550-182959-15

Date Collected: 04/21/22 14:56
Date Received: 04/22/22 15:48
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	272515	04/26/22 04:13	AS1	TAL PHX
Total/NA	Analysis	300.0		200	272515	04/26/22 04:31	AS1	TAL PHX
Total/NA	Analysis	300.0		5	272933	04/29/22 22:05	AS1	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	272866	04/27/22 20:18	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-Petroglyph-0422 — Lab Sample ID: 550-182959-15

Date Collected: 04/21/22 14:56
Date Received: 04/22/22 15:48
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	272972	04/29/22 21:16	MGM	TAL PHX
Total/NA	Prep	200.7			573141	04/27/22 10:56	MB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	573293	04/28/22 12:05	MAB	TAL DEN
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272751	04/27/22 21:09	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272855	04/28/22 16:43	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272988	04/30/22 12:55	ARE	TAL PHX
Total/NA	Prep	245.1			272719	04/27/22 17:18	SRR	TAL PHX
Total/NA	Analysis	245.1		1	272735	04/27/22 22:36	SRR	TAL PHX
Total/NA	Analysis	350.1		1	272773	04/28/22 09:34	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	272508	04/25/22 16:55	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	272456		CHS	TAL PHX
					(Start)	04/25/22 13:55		
					(End)	04/26/22 11:45		
Total/NA	Analysis	SM 4500 H+ B		1	272627	04/26/22 20:21	CXK	TAL PHX
Total/NA	Analysis	SM 5310B		1	273519	05/06/22 11:02	MEG	TAL PHX

Client Sample ID: CH-CCR-Petroglyph-0422 — Lab Sample ID: 550-182959-16

Date Collected: 04/21/22 14:56
Date Received: 04/22/22 15:48
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	272866	04/27/22 20:20	MGM	TAL PHX
Dissolved	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	272751	04/27/22 21:11	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	273518	05/05/22 20:55	MEG	TAL PHX

Client Sample ID: CH-CCR-TannerWash-0422 — Lab Sample ID: 550-182959-17

Date Collected: 04/21/22 14:15
Date Received: 04/22/22 15:48
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	272515	04/26/22 04:49	AS1	TAL PHX
Total/NA	Analysis	300.0		200	272515	04/26/22 05:08	AS1	TAL PHX
Total/NA	Analysis	300.0		5	272933	04/29/22 21:37	AS1	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	272866	04/27/22 20:23	MGM	TAL PHX
Total/NA	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	272972	04/29/22 21:18	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Client Sample ID: CH-CCR-TannerWash-0422

Lab Sample ID: 550-182959-17
Date Collected: 04/21/22 14:15
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			573141	04/27/22 10:56	MB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	573293	04/28/22 12:09	MAB	TAL DEN
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272751	04/27/22 21:13	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272855	04/28/22 16:45	ARE	TAL PHX
Total/NA	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	272988	04/30/22 12:57	ARE	TAL PHX
Total/NA	Prep	245.1			272719	04/27/22 17:18	SRR	TAL PHX
Total/NA	Analysis	245.1		1	272735	04/27/22 22:38	SRR	TAL PHX
Total/NA	Analysis	350.1		1	272773	04/28/22 09:36	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	272508	04/25/22 17:02	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	272456		CHS	TAL PHX
					(Start)	04/25/22 13:55		
					(End)	04/26/22 11:45		
Total/NA	Analysis	SM 4500 H+ B		1	272627	04/26/22 20:21	CXK	TAL PHX
Total/NA	Analysis	SM 5310B		1	273519	05/06/22 11:15	MEG	TAL PHX

Client Sample ID: CH-CCR-TannerWash-0422

Lab Sample ID: 550-182959-18
Date Collected: 04/21/22 14:15
Matrix: Water
Date Received: 04/22/22 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272450	04/25/22 09:14	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	272866	04/27/22 20:25	MGM	TAL PHX
Dissolved	Prep	200.8			272434	04/25/22 06:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	272751	04/27/22 21:15	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	273518	05/05/22 21:08	MEG	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon
SM 5310B		Water	Dissolved Organic Carbon - Duplicate
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-08-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Laboratory: Eurofins Denver (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wyoming (UST)	A2LA	2907.01	10-31-22

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-182959-3

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

182959

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5/6/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 2 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (SEDI)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
CH-CCR-CR1R-0422 -01	4/22/2022	09:05	G	W	2	N		X	X	X	X	X	X	Low Flow
CH-CCR-FD02-0422 -02	4/22/22	09:05	G	W	2	N	N	X	X	X	X	X	X	"
CH-CCR-CR1R-0422-MS -01	4/22/22	09:05	G	W	2	N	N	X	X	X	X	X	X	Low Flow, MS
CH-CCR-CR1R-0422-SD -01	4/22/22	09:05	G	W	2	N	N	X	X	X	X	X	X	Low Flow, MSD
								1	4	1	1	4	4	

550-182959 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.9°C ice CPO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Allen Ramirez	Wood	4/22/22 15:45			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				EGA ONY	4-22-22 1548

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

182959

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 3 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 5310B (TOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li)	SM 2320B (CO3, HCO3 - Alk. as CaCO3)	SM 2320B (HCO3 - Alk. as CaCO3)	Sample Specific Notes:
CH-CCR-FAP-0422 -03 + 04	4/21/22	10:35	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	Surface Water Sample
CH-CCR-GeronimoC-0422 -05 + 06	4/20/22	15:25	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	Seepage Pump Port Sample
CH-CCR-GeronimoD-0422 -07 + 08	4/20/22	15:55	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	"
CH-CCR-HuntB-0422 -09 + 10	4/20/22	14:18	G	W	12	*	N	X		X	X	X	X	X	X	X	X	X	X	X		X	X	"
								1	4	4	4	4	4	4	1	1	2	2	3	3	4	1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.9°C ice CDS

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Adam Ramirez	Wood	4/22/22 15:48			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EEA Dmx	Date/Time: 4-22-22 1548

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

182959

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: **CCR**

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	3 of 3 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5410B (TOC)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	SM 2320B (CO3, HCO3 - Alk. as CaCO3)	Sample Specific Notes:
CH-CCR-BAP-0422 -11 + 12	4/21/22	13:40	C	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	Surface Water Sample
CH-CCR-BAPTD-0422 -13 + 14	4/21/22	15:50	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	Seepage Pump Port Sample
CH-CCR-Petroglyph-0422 -15 + 16	4/21/2022	14:56	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TannerWash-0422 -17 + 18	4/21/2022	14:15	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	1	1	2	2	3	3	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.9°C ice CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Adam Ramirez		4/22/22 15:48			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EEA [illegible]	Date/Time: 4-22-22 1548

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-182959-3

Login Number: 182959
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-182959-3

Login Number: 182959
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 04/26/22 06:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-183298-1
Client Project/Site: APS - Cholla CCR
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/15/2022 11:27:04 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-183298-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-183298-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 5/12/2022. The report (revision 1) is being revised due to: The client requested the results to be reported to the RL.

Receipt
The samples were received on 4/29/2022 4:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6º C.

Receipt Exceptions
The containers for the following samples were received 1/4 full at the Denver laboratory.
CH-CCR-M58A-0422 (550-183298-1), CH-CCR-M56A-0422 (550-183298-2), CH-CCR-M57A-0422 (550-183298-3) and CH-CCR-M62A-0422 (550-183298-4).

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-273266 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-183298-1	CH-CCR-M58A-0422	Water	04/26/22 09:25	04/29/22 16:35
550-183298-2	CH-CCR-M56A-0422	Water	04/25/22 15:15	04/29/22 16:35
550-183298-3	CH-CCR-M57A-0422	Water	04/25/22 16:10	04/29/22 16:35
550-183298-4	CH-CCR-M62A-0422	Water	04/25/22 14:18	04/29/22 16:35

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Client Sample ID: CH-CCR-M58A-0422 — Lab Sample ID: 550-183298-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400		mg/L	200		300.0	Total/NA
Sulfate	610	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.080		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.23		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	340		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0057		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.062		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0017		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	4700	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.5	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M56A-0422 — Lab Sample ID: 550-183298-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400		mg/L	200		300.0	Total/NA
Sulfate	1000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.11		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.37		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	340		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0025		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.043		0.00050		mg/L	1		200.8 LL	Total/NA
Chromium	0.0018		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.00072		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0081		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	4900	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.4	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M57A-0422 — Lab Sample ID: 550-183298-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	2000	D2	400		mg/L	200		300.0	Total/NA
Sulfate	1100	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.10		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.42		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0023		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.045		0.00050		mg/L	1		200.8 LL	Total/NA
Chromium	0.082		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0035		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0097		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	4700	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.8	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M62A-0422 — Lab Sample ID: 550-183298-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400		mg/L	200		300.0	Total/NA
Sulfate	730	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.088		0.020		mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Client Sample ID: CH-CCR-M62A-0422 (Continued)

Lab Sample ID: 550-183298-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	0.24		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	450		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0038		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.050		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0032		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	5400	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Client Sample ID: CH-CCR-M58A-0422

Lab Sample ID: 550-183298-1
Matrix: Water
Date Collected: 04/26/22 09:25
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2100**	**D2**	400	mg/L			05/05/22 03:50	200
Fluoride	ND	D1	0.80	mg/L			05/05/22 03:31	2
Sulfate	**610**	**D2**	400	mg/L			05/05/22 03:50	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/30/22 08:30	05/03/22 22:23	1
Lithium	**0.080**		0.020	mg/L		05/09/22 17:17	05/10/22 13:17	1
Boron	**0.23**		0.050	mg/L		04/30/22 08:30	05/03/22 22:23	1
Calcium	**340**		2.0	mg/L		04/30/22 08:30	05/03/22 22:23	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		04/30/22 13:01	05/02/22 16:47	1
Arsenic	**0.0057**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:47	1
Barium	**0.062**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:47	1
Cadmium	ND		0.00010	mg/L		04/30/22 13:01	05/02/22 16:47	1
Chromium	ND		0.0010	mg/L		04/30/22 13:01	05/02/22 16:47	1
Cobalt	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:47	1
Lead	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:47	1
Molybdenum	**0.0017**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:47	1
Selenium	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:47	1
Thallium	ND		0.00010	mg/L		04/30/22 13:01	05/02/22 16:47	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/02/22 16:35	05/02/22 21:28	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4700**	**D2**	100	mg/L			05/02/22 13:16	1
pH	**7.5**	**H5**	1.7	SU			04/30/22 16:08	1
Temperature	**13.5**	**H5 T5**	0.1	Degrees C			04/30/22 16:08	1

Client Sample ID: CH-CCR-M56A-0422

Lab Sample ID: 550-183298-2
Matrix: Water
Date Collected: 04/25/22 15:15
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2100**	**D2**	400	mg/L			05/05/22 04:27	200
Fluoride	ND	D1	0.80	mg/L			05/05/22 04:08	2
Sulfate	**1000**	**D2**	400	mg/L			05/05/22 04:27	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/30/22 08:30	05/03/22 22:27	1
Lithium	**0.11**		0.020	mg/L		05/09/22 17:17	05/10/22 13:22	1
Boron	**0.37**		0.050	mg/L		04/30/22 08:30	05/03/22 22:27	1
Calcium	**340**		2.0	mg/L		04/30/22 08:30	05/03/22 22:27	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Client Sample ID: CH-CCR-M56A-0422

Lab Sample ID: 550-183298-2
Matrix: Water
Date Collected: 04/25/22 15:15
Date Received: 04/29/22 16:35

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		04/30/22 13:01	05/02/22 16:49	1
Arsenic	**0.0025**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:49	1
Barium	**0.043**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:49	1
Cadmium	ND		0.00010	mg/L		04/30/22 13:01	05/02/22 16:49	1
Chromium	**0.0018**		0.0010	mg/L		04/30/22 13:01	05/02/22 16:49	1
Cobalt	**0.00072**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:49	1
Lead	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:49	1
Molybdenum	**0.0081**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:49	1
Selenium	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:49	1
Thallium	ND		0.00010	mg/L		04/30/22 13:01	05/02/22 16:49	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/02/22 16:35	05/02/22 21:30	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4900**	**D2**	100	mg/L			05/02/22 13:16	1
pH	**7.4**	**H5**	1.7	SU			04/30/22 16:08	1
Temperature	**13.4**	**H5 T5**	0.1	Degrees C			04/30/22 16:08	1

Client Sample ID: CH-CCR-M57A-0422

Lab Sample ID: 550-183298-3
Matrix: Water
Date Collected: 04/25/22 16:10
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2000**	**D2**	400	mg/L			05/05/22 05:03	200
Fluoride	ND	D1	0.80	mg/L			05/05/22 04:45	2
Sulfate	**1100**	**D2**	400	mg/L			05/05/22 05:03	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/30/22 08:30	05/03/22 22:30	1
Lithium	**0.10**		0.020	mg/L		05/09/22 17:17	05/10/22 13:26	1
Boron	**0.42**		0.050	mg/L		04/30/22 08:30	05/03/22 22:30	1
Calcium	**440**		2.0	mg/L		04/30/22 08:30	05/03/22 22:30	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		04/30/22 13:01	05/02/22 16:52	1
Arsenic	**0.0023**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:52	1
Barium	**0.045**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:52	1
Cadmium	ND		0.00010	mg/L		04/30/22 13:01	05/02/22 16:52	1
Chromium	**0.082**		0.0010	mg/L		04/30/22 13:01	05/02/22 16:52	1
Cobalt	**0.0035**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:52	1
Lead	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:52	1
Molybdenum	**0.0097**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:52	1
Selenium	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:52	1
Thallium	ND		0.00010	mg/L		04/30/22 13:01	05/02/22 16:52	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Client Sample ID: CH-CCR-M57A-0422

Lab Sample ID: 550-183298-3
Date Collected: 04/25/22 16:10
Matrix: Water
Date Received: 04/29/22 16:35

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/02/22 16:35	05/02/22 21:32	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4700**	**D2**	100	mg/L			05/02/22 13:16	1
pH	**7.2**	**H5**	1.7	SU			04/30/22 16:08	1
Temperature	**12.8**	**H5 T5**	0.1	Degrees C			04/30/22 16:08	1

Client Sample ID: CH-CCR-M62A-0422

Lab Sample ID: 550-183298-4
Date Collected: 04/25/22 14:18
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**	**D2**	400	mg/L			05/06/22 04:41	200
Fluoride	ND	D1	0.80	mg/L			05/06/22 03:46	2
Sulfate	**730**	**D2**	400	mg/L			05/06/22 04:41	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/30/22 08:30	05/03/22 22:38	1
Lithium	**0.088**		0.020	mg/L		05/09/22 17:17	05/10/22 13:46	1
Boron	**0.24**		0.050	mg/L		04/30/22 08:30	05/03/22 22:38	1
Calcium	**450**		2.0	mg/L		04/30/22 08:30	05/03/22 22:38	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		04/30/22 13:01	05/02/22 16:54	1
Arsenic	**0.0038**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:54	1
Barium	**0.050**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:54	1
Cadmium	ND		0.00010	mg/L		04/30/22 13:01	05/02/22 16:54	1
Chromium	ND		0.0010	mg/L		04/30/22 13:01	05/02/22 16:54	1
Cobalt	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:54	1
Lead	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:54	1
Molybdenum	**0.0032**		0.00050	mg/L		04/30/22 13:01	05/02/22 16:54	1
Selenium	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:54	1
Thallium	ND		0.00010	mg/L		04/30/22 13:01	05/02/22 16:54	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/02/22 16:35	05/02/22 21:34	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5400**	**D2**	100	mg/L			05/02/22 13:16	1
pH	**7.4**	**H5**	1.7	SU			04/30/22 16:08	1
Temperature	**12.7**	**H5 T5**	0.1	Degrees C			04/30/22 16:08	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-273348/1038
Matrix: Water
Analysis Batch: 273348

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			05/04/22 22:00	1
Fluoride	ND		0.40		mg/L			05/04/22 22:00	1
Sulfate	ND		2.0		mg/L			05/04/22 22:00	1

Lab Sample ID: LCS 550-273348/39
Matrix: Water
Analysis Batch: 273348

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	21.3		mg/L		106	90 - 110		
Fluoride			4.00	4.15		mg/L		104	90 - 110		
Sulfate			20.0	20.9		mg/L		104	90 - 110		

Lab Sample ID: LCSD 550-273348/40
Matrix: Water
Analysis Batch: 273348

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride			4.00	4.15		mg/L		104	90 - 110	0	20
Sulfate			20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-183265-A-2 MS ^10
Matrix: Water
Analysis Batch: 273348

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	26	D1	200	241	D1	mg/L		107	80 - 120		
Fluoride	93	D2	40.0	130	D2	mg/L		92	80 - 120		
Sulfate	190	D2	200	395	D2	mg/L		104	80 - 120		

Lab Sample ID: 550-183265-A-2 MSD ^10
Matrix: Water
Analysis Batch: 273348

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	26	D1	200	242	D1	mg/L		108	80 - 120	1	20
Fluoride	93	D2	40.0	131	D2	mg/L		95	80 - 120	1	20
Sulfate	190	D2	200	398	D2	mg/L		106	80 - 120	1	20

Lab Sample ID: MB 550-273468/1038
Matrix: Water
Analysis Batch: 273468

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			05/05/22 21:56	1
Fluoride	ND		0.40		mg/L			05/05/22 21:56	1
Sulfate	ND		2.0		mg/L			05/05/22 21:56	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-273468/39 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.12		mg/L		103	90 - 110
Sulfate	20.0	20.7		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-273468/40 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273468

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.13		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-183585-H-45 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273468

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	E2 M3	20.0	251	E2 M3	mg/L		27	80 - 120
Fluoride	1.8		4.00	5.88		mg/L		102	80 - 120
Sulfate	770	E2 M3	20.0	757	E2 M3	mg/L		-63	80 - 120

Lab Sample ID: 550-183585-H-45 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273468

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	E2 M3	20.0	251	E2 M3	mg/L		29	80 - 120	0	20
Fluoride	1.8		4.00	5.87		mg/L		102	80 - 120	0	20
Sulfate	770	E2 M3	20.0	757	E2 M3	mg/L		-59	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-272944/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273266 — **Prep Batch: 272944**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/30/22 08:30	05/03/22 21:52	1
Boron	ND		0.050	mg/L		04/30/22 08:30	05/03/22 21:52	1
Calcium	ND		2.0	mg/L		04/30/22 08:30	05/03/22 21:52	1

Lab Sample ID: LCS 550-272944/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273266 — **Prep Batch: 272944**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.10	V1	mg/L		110	85 - 115
Boron	1.00	1.03		mg/L		103	85 - 115
Calcium	21.0	22.0		mg/L		105	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: LCSD 550-272944/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273266 — **Prep Batch: 272944**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.05	V1	mg/L		105	85 - 115	4	20
Boron			1.00	1.02		mg/L		102	85 - 115	2	20
Calcium			21.0	21.0		mg/L		100	85 - 115	4	20

Lab Sample ID: 550-183278-A-2-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273266 — **Prep Batch: 272944**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium	ND	V1	1.00	1.12	V1	mg/L		112	70 - 130		
Boron	3.0		1.00	3.98		mg/L		97	70 - 130		
Calcium	60		21.0	79.5		mg/L		94	70 - 130		

Lab Sample ID: 550-183278-A-2-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273266 — **Prep Batch: 272944**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND	V1	1.00	1.15	V1	mg/L		115	70 - 130	2	20
Boron	3.0		1.00	3.97		mg/L		95	70 - 130	0	20
Calcium	60		21.0	81.0		mg/L		102	70 - 130	2	20

Lab Sample ID: MB 280-574275/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574463 — **Prep Batch: 574275**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020		mg/L		05/09/22 17:17	05/10/22 12:00	1

Lab Sample ID: LCS 280-574275/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574463 — **Prep Batch: 574275**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.979		mg/L		98	90 - 112		

Lab Sample ID: LCSD 280-574275/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574463 — **Prep Batch: 574275**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	0.969		mg/L		97	90 - 112	1	20

Lab Sample ID: 280-162013-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574463 — **Prep Batch: 574275**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	ND		1.00	0.977		mg/L		96	70 - 130		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 280-162013-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574463 — **Prep Batch: 574275**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	ND		1.00	0.981		mg/L		97	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-272986/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273103 — **Prep Batch: 272986**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		04/30/22 13:01	05/02/22 16:10	1
Arsenic	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:10	1
Barium	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:10	1
Cadmium	ND		0.00010	mg/L		04/30/22 13:01	05/02/22 16:10	1
Chromium	ND		0.0010	mg/L		04/30/22 13:01	05/02/22 16:10	1
Cobalt	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:10	1
Lead	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:10	1
Molybdenum	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:10	1
Selenium	ND		0.00050	mg/L		04/30/22 13:01	05/02/22 16:10	1
Thallium	ND		0.00010	mg/L		04/30/22 13:01	05/02/22 16:10	1

Lab Sample ID: LCS 550-272986/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273103 — **Prep Batch: 272986**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0930		mg/L		93	85 - 115
Arsenic	0.100	0.0932		mg/L		93	85 - 115
Barium	0.100	0.106		mg/L		106	85 - 115
Cadmium	0.100	0.0995		mg/L		99	85 - 115
Chromium	0.100	0.0960		mg/L		96	85 - 115
Cobalt	0.100	0.0938		mg/L		94	85 - 115
Lead	0.100	0.0942		mg/L		94	85 - 115
Molybdenum	0.100	0.0967		mg/L		97	85 - 115
Selenium	0.100	0.0905		mg/L		91	85 - 115
Thallium	0.100	0.0958		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-272986/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273103 — **Prep Batch: 272986**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0923		mg/L		92	85 - 115	1	20
Arsenic	0.100	0.0930		mg/L		93	85 - 115	0	20
Barium	0.100	0.104		mg/L		104	85 - 115	2	20
Cadmium	0.100	0.100		mg/L		100	85 - 115	1	20
Chromium	0.100	0.0960		mg/L		96	85 - 115	0	20
Cobalt	0.100	0.0984		mg/L		98	85 - 115	5	20
Lead	0.100	0.0985		mg/L		98	85 - 115	4	20
Molybdenum	0.100	0.0980		mg/L		98	85 - 115	1	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-272986/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273103 — **Prep Batch: 272986**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium			0.100	0.0918		mg/L		92	85 - 115	1	20
Thallium			0.100	0.102		mg/L		102	85 - 115	7	20

Lab Sample ID: 550-182903-B-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273103 — **Prep Batch: 272986**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		0.100	0.0949		mg/L		95	70 - 130		
Arsenic	ND		0.100	0.0956		mg/L		96	70 - 130		
Barium	0.027		0.100	0.130		mg/L		104	70 - 130		
Cadmium	0.038		0.100	0.138		mg/L		100	70 - 130		
Chromium	ND		0.100	0.0988		mg/L		98	70 - 130		
Cobalt	0.0086		0.100	0.105		mg/L		96	70 - 130		
Lead	0.017		0.100	0.117		mg/L		100	70 - 130		
Molybdenum	ND		0.100	0.103		mg/L		103	70 - 130		
Selenium	ND		0.100	0.0962		mg/L		96	70 - 130		
Thallium	ND		0.100	0.106		mg/L		106	70 - 130		

Lab Sample ID: 550-182903-B-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273103 — **Prep Batch: 272986**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.0947		mg/L		95	70 - 130	0	20
Arsenic	ND		0.100	0.0948		mg/L		95	70 - 130	1	20
Barium	0.027		0.100	0.134		mg/L		107	70 - 130	3	20
Cadmium	0.038		0.100	0.139		mg/L		102	70 - 130	1	20
Chromium	ND		0.100	0.0981		mg/L		97	70 - 130	1	20
Cobalt	0.0086		0.100	0.105		mg/L		97	70 - 130	1	20
Lead	0.017		0.100	0.112		mg/L		95	70 - 130	5	20
Molybdenum	ND		0.100	0.102		mg/L		102	70 - 130	1	20
Selenium	ND		0.100	0.0947		mg/L		95	70 - 130	2	20
Thallium	ND		0.100	0.102		mg/L		102	70 - 130	4	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-273061/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273085 — **Prep Batch: 273061**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020		mg/L		05/02/22 16:35	05/02/22 20:43	1

Lab Sample ID: LCS 550-273061/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273085 — **Prep Batch: 273061**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg			0.00500	0.00503		mg/L		101	85 - 115		

QC Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: LCSD 550-273061/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273085 — **Prep Batch: 273061**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00510		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-182324-A-13-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273085 — **Prep Batch: 273061**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg	ND		0.00500	0.00495		mg/L		99	70 - 130		

Lab Sample ID: 550-182324-A-13-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273085 — **Prep Batch: 273061**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	ND		0.00500	0.00507		mg/L		101	70 - 130	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-273035/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273035

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			05/02/22 13:16	1

Lab Sample ID: LCS 550-273035/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273035

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	980		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-273035/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273035

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	974		mg/L		97	90 - 110	1	10

Lab Sample ID: 550-183298-2 DU — **Client Sample ID: CH-CCR-M56A-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273035

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	4900	D2		4610	D2	mg/L				6	10

QC Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-272996/13
Matrix: Water
Analysis Batch: 272996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-272996/25
Matrix: Water
Analysis Batch: 272996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: 550-183172-C-1 DU
Matrix: Water
Analysis Batch: 272996

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	H5		7.4	H5	SU				0.1	5
Temperature	13.4	H5		13.1	H5	Degrees C				2	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

HPLC/IC

Analysis Batch: 273348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	300.0	
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	300.0	
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	300.0	
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	300.0	
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	300.0	
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	300.0	
MB 550-273348/1038	Method Blank	Total/NA	Water	300.0	
LCS 550-273348/39	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-273348/40	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183265-A-2 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-183265-A-2 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 273468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	300.0	
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	300.0	
MB 550-273468/1038	Method Blank	Total/NA	Water	300.0	
LCS 550-273468/39	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-273468/40	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183585-H-45 MS	Matrix Spike	Total/NA	Water	300.0	
550-183585-H-45 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 272944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	200.7	
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	200.7	
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	200.7	
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	200.7	
MB 550-272944/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-272944/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-272944/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-183278-A-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-183278-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 272986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	200.8	
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	200.8	
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	200.8	
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	200.8	
MB 550-272986/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-272986/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-272986/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-182903-B-1-G MS	Matrix Spike	Total/NA	Water	200.8	
550-182903-B-1-H MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 273061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 273061 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	245.1	
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	245.1	
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	245.1	
MB 550-273061/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-273061/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-273061/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-182324-A-13-D MS	Matrix Spike	Dissolved	Water	245.1	
550-182324-A-13-E MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	

Analysis Batch: 273085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	245.1	273061
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	245.1	273061
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	245.1	273061
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	245.1	273061
MB 550-273061/1-A	Method Blank	Total/NA	Water	245.1	273061
LCS 550-273061/2-A	Lab Control Sample	Total/NA	Water	245.1	273061
LCSD 550-273061/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	273061
550-182324-A-13-D MS	Matrix Spike	Dissolved	Water	245.1	273061
550-182324-A-13-E MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	273061

Analysis Batch: 273103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	200.8 LL	272986
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	200.8 LL	272986
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	200.8 LL	272986
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	200.8 LL	272986
MB 550-272986/1-A	Method Blank	Total/NA	Water	200.8 LL	272986
LCS 550-272986/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272986
LCSD 550-272986/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272986
550-182903-B-1-G MS	Matrix Spike	Total/NA	Water	200.8 LL	272986
550-182903-B-1-H MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	272986

Analysis Batch: 273266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	200.7 Rev 4.4	272944
MB 550-272944/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272944
LCS 550-272944/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272944
LCSD 550-272944/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272944
550-183278-A-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	272944
550-183278-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	272944

Prep Batch: 574275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	200.7	
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	200.7	
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	200.7	
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 574275 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-574275/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-574275/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-574275/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-162013-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-162013-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 574463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	200.7 Rev 4.4	574275
MB 280-574275/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	574275
LCS 280-574275/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	574275
LCSD 280-574275/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	574275
280-162013-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	574275
280-162013-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	574275

General Chemistry

Analysis Batch: 272996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	SM 4500 H+ B	
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	SM 4500 H+ B	
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	SM 4500 H+ B	
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272996/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272996/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-183172-C-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 273035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183298-1	CH-CCR-M58A-0422	Total/NA	Water	SM 2540C	
550-183298-2	CH-CCR-M56A-0422	Total/NA	Water	SM 2540C	
550-183298-3	CH-CCR-M57A-0422	Total/NA	Water	SM 2540C	
550-183298-4	CH-CCR-M62A-0422	Total/NA	Water	SM 2540C	
MB 550-273035/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-273035/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-273035/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-183298-2 DU	CH-CCR-M56A-0422	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Client Sample ID: CH-CCR-M58A-0422

Lab Sample ID: 550-183298-1
Date Collected: 04/26/22 09:25
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273348	05/05/22 03:31	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273348	05/05/22 03:50	AS1	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:23	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 13:17	LMT	TAL DEN
Total/NA	Prep	200.8			272986	04/30/22 13:01	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273103	05/02/22 16:47	ARE	TAL PHX
Total/NA	Prep	245.1			273061	05/02/22 16:35	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273085	05/02/22 21:28	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX

Client Sample ID: CH-CCR-M56A-0422

Lab Sample ID: 550-183298-2
Date Collected: 04/25/22 15:15
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273348	05/05/22 04:08	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273348	05/05/22 04:27	AS1	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:27	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 13:22	LMT	TAL DEN
Total/NA	Prep	200.8			272986	04/30/22 13:01	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273103	05/02/22 16:49	ARE	TAL PHX
Total/NA	Prep	245.1			273061	05/02/22 16:35	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273085	05/02/22 21:30	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX

Client Sample ID: CH-CCR-M57A-0422

Lab Sample ID: 550-183298-3
Date Collected: 04/25/22 16:10
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273348	05/05/22 04:45	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273348	05/05/22 05:03	AS1	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:30	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Client Sample ID: CH-CCR-M57A-0422

Lab Sample ID: 550-183298-3
Date Collected: 04/25/22 16:10
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 13:26	LMT	TAL DEN
Total/NA	Prep	200.8			272986	04/30/22 13:01	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273103	05/02/22 16:52	ARE	TAL PHX
Total/NA	Prep	245.1			273061	05/02/22 16:35	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273085	05/02/22 21:32	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX

Client Sample ID: CH-CCR-M62A-0422

Lab Sample ID: 550-183298-4
Date Collected: 04/25/22 14:18
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273468	05/06/22 03:46	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273468	05/06/22 04:41	AS1	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:38	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 13:46	LMT	TAL DEN
Total/NA	Prep	200.8			272986	04/30/22 13:01	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273103	05/02/22 16:54	ARE	TAL PHX
Total/NA	Prep	245.1			273061	05/02/22 16:35	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273085	05/02/22 21:34	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183298-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

183298

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

6/15/2022 (Rev. 1)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			
(928) 587-0319 Phone	TAT if different from Below _____			
FAX	☑ 2 weeks			
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (SEDI)	☐ 2 days			
PO #: 300590307	☐ 1 day			

550-183298 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 - Totals (Hg)								Sample Specific Notes:
CH-CCR-M58A-0422	4/26/2022	09:25	G	W	2	N		X	X	X	X	X	X							-01	"
CH-CCR-M56A-0422	4/25/2022	15:15	G	W	2	N		X	X	X	X	X	X							-02	"
CH-CCR-M57A-0422	4/25/2022	16:10	G	W	2	N		X	X	X	X	X	X							-03	"
CH-CCR-M62A-0422	4/25/22	14:18	G	W	2	N		X	X	X	X	X	X							-04	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	1	1	4	4								

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.6i

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company: WZ	Date/Time: 4/28/22 16:35	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EETA-PHX	Date/Time: 4/29/22 16:35

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

CDO

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-33837.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-183298-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 5/12/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Cholla CCR	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M58A-0422 (550-183298-1)	4/26/22	09:25 Arizona		Water			X	1	AZ Sample
CH-CCR-M56A-0422 (550-183298-2)	4/25/22	15:15 Arizona		Water			X	1	AZ Sample
CH-CCR-M57A-0422 (550-183298-3)	4/25/22	16:10 Arizona		Water			X	1	AZ Sample
CH-CCR-M62A-0422 (550-183298-4)	4/25/22	14:18 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Relinquished by: [illegible] 05-02-22	Date/Time: 15:15	Company: EETSW	Received by: Fedex		Date/Time:	Company
Relinquished by: Fed Ex	Date/Time:	Company	Received by: [illegible]		Date/Time: 05/03/2022 1030	Company EA DEN
Relinquished by:	Date/Time:	Company	Received by:		Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 4.6 CF+0.1 IR#12

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-183298-1

Login Number: 183298
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-183298-1

Login Number: 183298
List Number: 2
Creator: Kazenga, Oliver M

List Source: Eurofins Denver
List Creation: 05/03/22 06:41 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-183299-1
Client Project/Site: APS - Cholla CCR
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/21/2022 7:20:24 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-183299-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-183299-1

Comments
The report being provided is a revision of the original report sent on 5/23/2022. The report (revision 1) is being revised due to: Added total Fe and Mn to sample CH-CCR-MW43A-0422 (550-183299-1).

No additional comments.

Receipt
The samples were received on 4/29/2022 4:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.2º C and 0.4º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-273266 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: CH-CCR-MW43A-0422 (550-183299-2), CH-CCR-M66A-0422 (550-183299-16), CH-CCR-M67A-0422 (550-183299-18), CH-CCR-FD06-0422 (550-183299-21), CH-CCR-W123R-0422 (550-183299-23) and CH-CCR-W126R-0422 (550-183299-26). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: CH-CCR-M46A-0422 (550-183299-5), CH-CCR-M50A-0422 (550-183299-7), CH-CCR-M51A-0422 (550-183299-9), CH-CCR-M64A-0422 (550-183299-12) and CH-CCR-M65A-0422 (550-183299-14). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 550-273518 were outside control limits for DOC. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method SM 5310B: The matrix spike duplicate (MSD) recovery for analytical batch 550-273721 was outside control limits for DOC. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Dissolved Organic Carbon (DOC) in analytical batch 550-273968 were outside control limits. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-183299-1	CH-CCR-MW43A-0422	Water	04/26/22 15:15	04/29/22 16:35
550-183299-2	CH-CCR-MW43A-0422	Water	04/26/22 15:15	04/29/22 16:35
550-183299-3	CH-CCR-M44D-0422	Water	04/29/22 10:20	04/29/22 16:35
550-183299-4	CH-CCR-M45A-0422	Water	04/26/22 14:12	04/29/22 16:35
550-183299-5	CH-CCR-M46A-0422	Water	04/27/22 09:55	04/29/22 16:35
550-183299-6	CH-CCR-M46A-0422	Water	04/27/22 09:55	04/29/22 16:35
550-183299-7	CH-CCR-M50A-0422	Water	04/28/22 10:20	04/29/22 16:35
550-183299-8	CH-CCR-M50A-0422	Water	04/28/22 10:20	04/29/22 16:35
550-183299-9	CH-CCR-M51A-0422	Water	04/28/22 09:25	04/29/22 16:35
550-183299-10	CH-CCR-M51A-0422	Water	04/28/22 09:25	04/29/22 16:35
550-183299-11	CH-CCR-M63A-0422	Water	04/27/22 16:13	04/29/22 16:35
550-183299-12	CH-CCR-M64A-0422	Water	04/26/22 11:55	04/29/22 16:35
550-183299-13	CH-CCR-M64A-0422	Water	04/26/22 11:55	04/29/22 16:35
550-183299-14	CH-CCR-M65A-0422	Water	04/26/22 16:20	04/29/22 16:35
550-183299-15	CH-CCR-M65A-0422	Water	04/26/22 16:20	04/29/22 16:35
550-183299-16	CH-CCR-M66A-0422	Water	04/27/22 13:43	04/29/22 16:35
550-183299-17	CH-CCR-M66A-0422	Water	04/27/22 13:43	04/29/22 16:35
550-183299-18	CH-CCR-M67A-0422	Water	04/27/22 11:33	04/29/22 16:35
550-183299-19	CH-CCR-M67A-0422	Water	04/27/22 11:33	04/29/22 16:35
550-183299-20	CH-CCR-FD05-0422	Water	04/27/22 23:00	04/29/22 16:35
550-183299-21	CH-CCR-FD06-0422	Water	04/27/22 19:00	04/29/22 16:35
550-183299-22	CH-CCR-FD06-0422	Water	04/27/22 19:00	04/29/22 16:35
550-183299-23	CH-CCR-W123R-0422	Water	04/28/22 12:20	04/29/22 16:35
550-183299-24	CH-CCR-W123R-0422	Water	04/28/22 12:20	04/29/22 16:35
550-183299-25	CH-CCR-W125-0422	Water	04/28/22 11:28	04/29/22 16:35
550-183299-26	CH-CCR-W126R-0422	Water	04/27/22 14:50	04/29/22 16:35
550-183299-27	CH-CCR-W126R-0422	Water	04/27/22 14:50	04/29/22 16:35

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-MW43A-0422 — Lab Sample ID: 550-183299-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.30	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.17		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.95		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	780		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.4		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0022		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.017		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.0018		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00023	E4	0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0031		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00055		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Ammonia	0.36		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	6600	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.4	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW43A-0422 — Lab Sample ID: 550-183299-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	2.4	M1	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.4		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0022		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00019	E4	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M44D-0422 — Lab Sample ID: 550-183299-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.74	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	320	D2	40	8.5	mg/L	20		300.0	Total/NA
Lithium	0.052		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.26		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	94		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00088		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.019		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0018		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	2600	D2	40	40	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M45A-0422 — Lab Sample ID: 550-183299-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.64	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M45A-0422 (Continued) — Lab Sample ID: 550-183299-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	2200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.1		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0047		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.013		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00060		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0032		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00029	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	4600	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M46A-0422 — Lab Sample ID: 550-183299-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.74	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.25		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.70		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	1200		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.6		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	16		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2900		2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000061	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0033		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.026		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000062	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0033		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00069		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0066		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0012		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000015	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.66		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	220		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	220		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	13000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M46A-0422 — Lab Sample ID: 550-183299-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.74		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0037		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M46A-0422 (Continued) — Lab Sample ID: 550-183299-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.00064		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M50A-0422 — Lab Sample ID: 550-183299-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1900	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.43		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.1		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	620		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.24		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	210		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.41		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.4		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000065	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0039		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0082		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000039	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.014		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00067		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0088		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0015		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000063	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	170		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7400	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M50A-0422 — Lab Sample ID: 550-183299-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.20		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.38		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0038		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00066		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M51A-0422 — Lab Sample ID: 550-183299-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.20	D1 E4	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.43		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	30		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	830		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M51A-0422 (Continued) — Lab Sample ID: 550-183299-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	270		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.17		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	27		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2900		2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000053	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.027	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0097		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000039	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.015	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0022	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.11		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Thallium	0.00011		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	87		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	87		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	13000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M51A-0422 — Lab Sample ID: 550-183299-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.18		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.021		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0014		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M63A-0422 — Lab Sample ID: 550-183299-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	420	D2	40	10	mg/L	20		300.0	Total/NA
Fluoride	0.22	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	760	D2	40	8.5	mg/L	20		300.0	Total/NA
Lithium	0.091		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.26		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	190		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000080	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0011		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.025		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00073		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0027		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0021		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000060	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1900		20	20	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M64A-0422 — Lab Sample ID: 550-183299-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.34	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.28		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.0		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	590		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	6.9		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	270		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	13		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3300		2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000054	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0015		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0041		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00075		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Ammonia	0.93		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	470		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	470		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	4.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	4.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	4.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M64A-0422 — Lab Sample ID: 550-183299-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	7.1		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0018		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M65A-0422 — Lab Sample ID: 550-183299-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.7	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.50		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	10		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	760		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.46		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.26		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	28		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900		2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000049	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0039		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000046	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0035		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M65A-0422 (Continued) — Lab Sample ID: 550-183299-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0025		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.091		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0010		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000018	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.045	E4	0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	170		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9100	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M65A-0422 — Lab Sample ID: 550-183299-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.47		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.26		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0040		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0024		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M66A-0422 — Lab Sample ID: 550-183299-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.53		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.9		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	840		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.96		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	300		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	8.6		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2500		5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.000057	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0022		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.014		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00024		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.016		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0012		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.015		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0092		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00012		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.089		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M66A-0422 (Continued) — Lab Sample ID: 550-183299-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M66A-0422 — Lab Sample ID: 550-183299-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.095	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0012		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0011		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M67A-0422 — Lab Sample ID: 550-183299-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.83	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	1600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.16		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.37		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	770		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	4.2		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	13		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	970		1.0	0.061	mg/L	2		200.7 Rev 4.4	Total/NA
Arsenic	0.0055		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.023		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.00043	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0054		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0020		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00043	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000065	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.56		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	230		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	230		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M67A-0422 — Lab Sample ID: 550-183299-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	3.5		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0040		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0053		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-FD05-0422 — Lab Sample ID: 550-183299-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	380	D2	4.0	1.0	mg/L	2		300.0	Total/NA
Fluoride	0.22	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	720	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.087		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.23		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	190		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000075	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0012		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.024		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00073		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0025		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0022		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000058	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1900		20	20	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD06-0422 — Lab Sample ID: 550-183299-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	12000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	9800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.52		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.9		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	810		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.94		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	8.2		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2500		5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.000060	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0026		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.015		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00022		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.010		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0012		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.015		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0092		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00012		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.060		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.5		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-FD06-0422 — Lab Sample ID: 550-183299-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.093	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0013		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0012		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W123R-0422 — Lab Sample ID: 550-183299-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.9	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	12000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.52		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	43		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	800		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.053	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	310		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	37		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3700		5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.000080	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0058		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0097		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.0011		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0037		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.21		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0014		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00023		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	1.3		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	54		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	54		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.1	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.1	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W123R-0422 — Lab Sample ID: 550-183299-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.043	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0048		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0041		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W125-0422 — Lab Sample ID: 550-183299-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	720	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.57	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	320	D1	4.0	0.85	mg/L	2		300.0	Total/NA
Lithium	0.033		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W125-0422 (Continued) — Lab Sample ID: 550-183299-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.20		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	120		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000054	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0040		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.021		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00068		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0024		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00024	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1800		20	20	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W126R-0422 — Lab Sample ID: 550-183299-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	11000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.63		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	49		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	820		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.10		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	470		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.54		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	53		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4300		5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.000085	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0027		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0078		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000063	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0079		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0039		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.25		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0021		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00013		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.45		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	81		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	81		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W126R-0422 — Lab Sample ID: 550-183299-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.051	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.53		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0016		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0044		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-MW43A-0422

Lab Sample ID: 550-183299-1

Date Collected: 04/26/22 15:15
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	100	mg/L			05/06/22 04:59	200
Fluoride	0.30	D1 E4	0.80	0.095	mg/L			05/06/22 04:04	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/14/22 23:01	5
Sulfate	2000	D2	400	85	mg/L			05/06/22 04:59	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 22:40	1
Lithium	0.17		0.020	0.0091	mg/L		05/09/22 17:17	05/10/22 13:54	1
Boron	0.95		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 22:40	1
Calcium	780		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 22:40	1
Iron	2.4		0.10	0.010	mg/L		04/30/22 08:30	05/06/22 17:38	1
Magnesium	230		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 22:40	1
Manganese	2.5		0.010	0.00019	mg/L		04/30/22 08:30	05/05/22 17:19	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/30/22 13:01	05/02/22 16:56	1
Arsenic	0.0022		0.00050	0.00025	mg/L		04/30/22 13:01	05/02/22 16:56	1
Barium	0.017		0.00050	0.00026	mg/L		04/30/22 13:01	05/02/22 16:56	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:01	05/02/22 16:56	1
Chromium	0.0018		0.0010	0.00043	mg/L		04/30/22 13:01	05/02/22 16:56	1
Cobalt	0.00023	E4	0.00050	0.000063	mg/L		04/30/22 13:01	05/02/22 16:56	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:01	05/02/22 16:56	1
Molybdenum	0.0031		0.00050	0.00020	mg/L		04/30/22 13:01	05/02/22 16:56	1
Selenium	0.00055		0.00050	0.000074	mg/L		04/30/22 13:01	05/02/22 16:56	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/30/22 13:01	05/02/22 16:56	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 18:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.36		0.050	0.039	mg/L			05/05/22 09:06	1
Total Dissolved Solids	6600	D2	100	100	mg/L			05/02/22 13:16	1
pH	7.2	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	13.5	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4	M2	0.50	0.26	mg/L			05/06/22 20:05	1
Dissolved Organic Carbon - Duplicate	1.4	M2	0.50	0.26	mg/L			05/06/22 20:05	1
Dissolved Organic Carbon - Quad	1.4	M2	0.50	0.26	mg/L			05/06/22 20:05	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-MW43A-0422

Lab Sample ID: 550-183299-2
Matrix: Water
Date Collected: 04/26/22 15:15
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2.4	M1	0.10	0.010	mg/L		04/30/22 08:30	05/03/22 23:22	1
Manganese	2.4		0.010	0.00019	mg/L		04/30/22 08:30	05/03/22 23:22	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0022		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:54	1
Cobalt	0.00019	E4	0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:54	1

Client Sample ID: CH-CCR-M44D-0422

Lab Sample ID: 550-183299-3
Matrix: Water
Date Collected: 04/29/22 10:20
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1000	D2	400	100	mg/L			05/06/22 05:18	200
Fluoride	0.74	D1 E4	0.80	0.095	mg/L			05/06/22 04:23	2
Sulfate	320	D2	40	8.5	mg/L			05/09/22 13:04	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 22:43	1
Lithium	0.052		0.020	0.0091	mg/L		05/09/22 17:17	05/10/22 13:58	1
Boron	0.26		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 22:43	1
Calcium	94		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 22:43	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/30/22 13:01	05/02/22 16:58	1
Arsenic	0.00088		0.00050	0.00025	mg/L		04/30/22 13:01	05/02/22 16:58	1
Barium	0.019		0.00050	0.00026	mg/L		04/30/22 13:01	05/02/22 16:58	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:01	05/02/22 16:58	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/30/22 13:01	05/02/22 16:58	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/30/22 13:01	05/02/22 16:58	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:01	05/02/22 16:58	1
Molybdenum	0.0018		0.00050	0.00020	mg/L		04/30/22 13:01	05/02/22 16:58	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/30/22 13:01	05/02/22 16:58	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/30/22 13:01	05/02/22 16:58	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2600	D2	40	40	mg/L			05/02/22 14:16	1
pH	7.0	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	14.9	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M45A-0422

Lab Sample ID: 550-183299-4
Date Collected: 04/26/22 14:12
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	700	D2	400	100	mg/L			05/06/22 05:41	200
Fluoride	0.64	D1 E4	0.80	0.095	mg/L			05/06/22 04:45	2
Sulfate	2200	D2	400	85	mg/L			05/06/22 05:41	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 22:46	1
Lithium	0.20		0.020	0.0091	mg/L		05/09/22 17:17	05/10/22 14:02	1
Boron	1.1		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 22:46	1
Calcium	680		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 22:46	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/30/22 13:01	05/02/22 17:00	1
Arsenic	0.0047		0.00050	0.00025	mg/L		04/30/22 13:01	05/02/22 17:00	1
Barium	0.013		0.00050	0.00026	mg/L		04/30/22 13:01	05/02/22 17:00	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:01	05/02/22 17:00	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/30/22 13:01	05/02/22 17:00	1
Cobalt	0.00060		0.00050	0.000063	mg/L		04/30/22 13:01	05/02/22 17:00	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:01	05/02/22 17:00	1
Molybdenum	0.0032		0.00050	0.00020	mg/L		04/30/22 13:01	05/02/22 17:00	1
Selenium	0.00029	E4	0.00050	0.000074	mg/L		04/30/22 13:01	05/02/22 17:00	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/30/22 13:01	05/02/22 17:00	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4600	D2	100	100	mg/L			05/02/22 13:16	1
pH	7.0	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	13.9	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

Client Sample ID: CH-CCR-M46A-0422

Lab Sample ID: 550-183299-5
Date Collected: 04/27/22 09:55
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6300	D2	400	100	mg/L			05/06/22 06:09	200
Fluoride	0.74	D1 E4	0.80	0.095	mg/L			05/06/22 05:13	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/17/22 20:01	5
Sulfate	2100	D2	400	85	mg/L			05/06/22 06:09	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 22:48	1
Lithium	0.25		0.020	0.0091	mg/L		05/09/22 17:17	05/10/22 14:06	1
Boron	0.70		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 22:48	1
Calcium	1200		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 22:48	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M46A-0422

Lab Sample ID: 550-183299-5
Matrix: Water

Date Collected: 04/27/22 09:55
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.6		0.10	0.010	mg/L		04/30/22 08:30	05/06/22 17:41	1
Magnesium	240		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 22:48	1
Manganese	2.6		0.010	0.00019	mg/L		04/30/22 08:30	05/05/22 17:24	1
Potassium	16		0.50	0.17	mg/L		04/30/22 08:30	05/03/22 22:48	1
Sodium	2900		2.5	0.15	mg/L		04/30/22 08:30	05/05/22 17:21	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000061	E4	0.0010	0.000043	mg/L		04/30/22 13:01	05/02/22 17:02	1
Arsenic	0.0033		0.00050	0.00025	mg/L		04/30/22 13:01	05/02/22 17:02	1
Barium	0.026		0.00050	0.00026	mg/L		04/30/22 13:01	05/02/22 17:02	1
Cadmium	0.000062	E4	0.00010	0.000023	mg/L		04/30/22 13:01	05/02/22 17:02	1
Chromium	0.0033		0.0010	0.00043	mg/L		04/30/22 13:01	05/02/22 17:02	1
Cobalt	0.00069		0.00050	0.000063	mg/L		04/30/22 13:01	05/02/22 17:02	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:01	05/02/22 17:02	1
Molybdenum	0.0066		0.00050	0.00020	mg/L		04/30/22 13:01	05/02/22 17:02	1
Selenium	0.0012		0.00050	0.000074	mg/L		04/30/22 13:01	05/02/22 17:02	1
Thallium	0.000015	E4	0.00010	0.000013	mg/L		04/30/22 13:01	05/02/22 17:02	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.66		0.050	0.039	mg/L			05/08/22 11:27	1
Alkalinity as CaCO3	220		6.0	6.0	mg/L			05/02/22 23:25	1
Bicarbonate Alkalinity as CaCO3	220		6.0	6.0	mg/L			05/02/22 23:25	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:25	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 23:25	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:25	1
Total Dissolved Solids	13000	D2	200	200	mg/L			05/02/22 13:16	1
pH	7.0	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	13.9	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.8		0.50	0.26	mg/L			05/06/22 20:38	1
Dissolved Organic Carbon - Duplicate	3.9		0.50	0.26	mg/L			05/06/22 20:38	1
Dissolved Organic Carbon - Quad	3.8		0.50	0.26	mg/L			05/06/22 20:38	1

Client Sample ID: CH-CCR-M46A-0422

Lab Sample ID: 550-183299-6
Matrix: Water

Date Collected: 04/27/22 09:55
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.74		0.10	0.010	mg/L		04/30/22 08:30	05/04/22 00:04	1
Manganese	2.7		0.010	0.00019	mg/L		04/30/22 08:30	05/04/22 00:04	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M46A-0422

Lab Sample ID: 550-183299-6
Date Collected: 04/27/22 09:55
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0037		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:56	1
Cobalt	0.00064		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:56	1

Client Sample ID: CH-CCR-M50A-0422

Lab Sample ID: 550-183299-7
Date Collected: 04/28/22 10:20
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900	D2	400	100	mg/L			05/06/22 04:45	200
Fluoride	2.3	D1	0.80	0.095	mg/L			05/06/22 03:49	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/15/22 00:24	5
Sulfate	3200	D2	400	85	mg/L			05/06/22 04:45	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 22:51	1
Lithium	0.43		0.020	0.0091	mg/L		05/09/22 17:17	05/10/22 14:11	1
Boron	3.1		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 22:51	1
Calcium	620		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 22:51	1
Iron	0.24		0.10	0.010	mg/L		04/30/22 08:30	05/06/22 17:43	1
Magnesium	210		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 22:51	1
Manganese	0.41		0.010	0.00019	mg/L		04/30/22 08:30	05/05/22 17:29	1
Potassium	6.4		0.50	0.17	mg/L		04/30/22 08:30	05/03/22 22:51	1
Sodium	1600		2.5	0.15	mg/L		04/30/22 08:30	05/05/22 17:26	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000065	E4	0.0010	0.000043	mg/L		04/30/22 13:01	05/02/22 17:04	1
Arsenic	0.0039		0.00050	0.00025	mg/L		04/30/22 13:01	05/02/22 17:04	1
Barium	0.0082		0.00050	0.00026	mg/L		04/30/22 13:01	05/02/22 17:04	1
Cadmium	0.000039	E4	0.00010	0.000023	mg/L		04/30/22 13:01	05/02/22 17:04	1
Chromium	0.014		0.0010	0.00043	mg/L		04/30/22 13:01	05/02/22 17:04	1
Cobalt	0.00067		0.00050	0.000063	mg/L		04/30/22 13:01	05/02/22 17:04	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:01	05/02/22 17:04	1
Molybdenum	0.0088		0.00050	0.00020	mg/L		04/30/22 13:01	05/02/22 17:04	1
Selenium	0.0015		0.00050	0.000074	mg/L		04/30/22 13:01	05/02/22 17:04	1
Thallium	0.000063	E4	0.00010	0.000013	mg/L		04/30/22 13:01	05/02/22 17:04	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/08/22 11:31	1
Alkalinity as CaCO3	170		6.0	6.0	mg/L			05/02/22 22:33	1
Bicarbonate Alkalinity as CaCO3	170		6.0	6.0	mg/L			05/02/22 22:33	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 22:33	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 22:33	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 22:33	1

Client Sample ID: CH-CCR-M50A-0422 — Lab Sample ID: 550-183299-7

Date Collected: 04/28/22 10:20
Date Received: 04/29/22 16:35
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7400	D2	100	100	mg/L			05/02/22 13:16	1
pH	7.4	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	14.3	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.8		0.50	0.26	mg/L			05/06/22 20:51	1
Dissolved Organic Carbon - Duplicate	2.9		0.50	0.26	mg/L			05/06/22 20:51	1
Dissolved Organic Carbon - Quad	2.8		0.50	0.26	mg/L			05/06/22 20:51	1

Client Sample ID: CH-CCR-M50A-0422 — Lab Sample ID: 550-183299-8

Date Collected: 04/28/22 10:20
Date Received: 04/29/22 16:35
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.20		0.10	0.010	mg/L		04/30/22 08:30	05/04/22 00:06	1
Manganese	0.38		0.010	0.00019	mg/L		04/30/22 08:30	05/04/22 00:06	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0038		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:58	1
Cobalt	0.00066		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:58	1

Client Sample ID: CH-CCR-M51A-0422 — Lab Sample ID: 550-183299-9

Date Collected: 04/28/22 09:25
Date Received: 04/29/22 16:35
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5200	D2	400	100	mg/L			05/06/22 05:13	200
Fluoride	5.6	D1	0.80	0.095	mg/L			05/06/22 04:17	2
Nitrate Nitrite as N	0.20	D1 E4	0.25	0.11	mg/L			05/15/22 00:52	5
Sulfate	2900	D2	400	85	mg/L			05/06/22 05:13	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 22:53	1
Lithium	0.43		0.020	0.0091	mg/L		05/09/22 17:17	05/10/22 14:15	1
Boron	30		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 22:53	1
Calcium	830		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 22:53	1
Iron	0.11		0.10	0.010	mg/L		04/30/22 08:30	05/06/22 17:46	1
Magnesium	270		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 22:53	1
Manganese	0.17		0.010	0.00019	mg/L		04/30/22 08:30	05/05/22 17:39	1
Potassium	27		0.50	0.17	mg/L		04/30/22 08:30	05/03/22 22:53	1
Sodium	2900		2.5	0.15	mg/L		04/30/22 08:30	05/05/22 17:32	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000053	E4	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:23	1
Arsenic	0.027	D1	0.0010	0.00049	mg/L		04/30/22 13:04	05/03/22 12:13	2

Client Sample ID: CH-CCR-M51A-0422

Lab Sample ID: 550-183299-9

Date Collected: 04/28/22 09:25
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.0097		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:23	1
Cadmium	0.000039	E4	0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:23	1
Chromium	0.015	D1	0.0020	0.00087	mg/L		04/30/22 13:04	05/03/22 12:13	2
Cobalt	0.0022	D1	0.0010	0.00013	mg/L		04/30/22 13:04	05/03/22 12:13	2
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:23	1
Molybdenum	0.11		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:23	1
Selenium	ND	D1 E8	0.0010	0.00015	mg/L		04/30/22 13:04	05/03/22 12:13	2
Thallium	0.00011		0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:23	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/08/22 11:33	1
Alkalinity as CaCO3	87		6.0	6.0	mg/L			05/02/22 23:39	1
Bicarbonate Alkalinity as CaCO3	87		6.0	6.0	mg/L			05/02/22 23:39	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:39	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 23:39	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:39	1
Total Dissolved Solids	13000	D2	200	200	mg/L			05/02/22 13:16	1
pH	7.3	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	15.0	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.7		0.50	0.26	mg/L			05/06/22 21:03	1
Dissolved Organic Carbon - Duplicate	1.8		0.50	0.26	mg/L			05/06/22 21:03	1
Dissolved Organic Carbon - Quad	1.7		0.50	0.26	mg/L			05/06/22 21:03	1

Client Sample ID: CH-CCR-M51A-0422

Lab Sample ID: 550-183299-10

Date Collected: 04/28/22 09:25
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.11		0.10	0.010	mg/L		04/30/22 08:30	05/04/22 00:09	1
Manganese	0.18		0.010	0.00019	mg/L		04/30/22 08:30	05/04/22 00:09	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.021		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 18:00	1
Cobalt	0.0014		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 18:00	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M63A-0422

Lab Sample ID: 550-183299-11
Date Collected: 04/27/22 16:13
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	420	D2	40	10	mg/L			05/09/22 15:28	20
Fluoride	0.22	D1 E4	0.80	0.095	mg/L			05/09/22 13:59	2
Sulfate	760	D2	40	8.5	mg/L			05/09/22 15:28	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 22:56	1
Lithium	0.091		0.020	0.0091	mg/L		05/09/22 17:17	05/10/22 14:19	1
Boron	0.26		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 22:56	1
Calcium	190		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 22:56	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000080	E4	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:25	1
Arsenic	0.0011		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:25	1
Barium	0.025		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:25	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:25	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:25	1
Cobalt	0.00073		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:25	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:25	1
Molybdenum	0.0027		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:25	1
Selenium	0.0021		0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:25	1
Thallium	0.000060	E4	0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:25	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		20	20	mg/L			05/02/22 13:16	1
pH	7.4	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	14.6	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

Client Sample ID: CH-CCR-M64A-0422

Lab Sample ID: 550-183299-12
Date Collected: 04/26/22 11:55
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4300	D2	400	100	mg/L			05/09/22 15:46	200
Fluoride	0.34	D1 E4	0.80	0.095	mg/L			05/09/22 14:17	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/15/22 01:20	5
Sulfate	3800	D2	400	85	mg/L			05/09/22 15:46	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 22:59	1
Lithium	0.28		0.020	0.0091	mg/L		05/09/22 17:17	05/10/22 14:23	1
Boron	1.0		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 22:59	1
Calcium	590		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 22:59	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M64A-0422

Lab Sample ID: 550-183299-12
Date Collected: 04/26/22 11:55
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6.9		0.10	0.010	mg/L		04/30/22 08:30	05/06/22 17:48	1
Magnesium	270		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 22:59	1
Manganese	2.5		0.010	0.00019	mg/L		04/30/22 08:30	05/05/22 17:45	1
Potassium	13		0.50	0.17	mg/L		04/30/22 08:30	05/03/22 22:59	1
Sodium	3300		2.5	0.15	mg/L		04/30/22 08:30	05/05/22 17:42	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000054	E4	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:27	1
Arsenic	0.0015		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:27	1
Barium	0.011		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:27	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:27	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:27	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:27	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:27	1
Molybdenum	0.0041		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:27	1
Selenium	0.00075		0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:27	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:27	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.93		0.050	0.039	mg/L			05/08/22 11:34	1
Alkalinity as CaCO3	470		6.0	6.0	mg/L			05/02/22 23:10	1
Bicarbonate Alkalinity as CaCO3	470		6.0	6.0	mg/L			05/02/22 23:10	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:10	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 23:10	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:10	1
Total Dissolved Solids	14000	D2	200	200	mg/L			05/02/22 13:16	1
pH	7.3	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	14.7	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.9		0.50	0.26	mg/L			05/06/22 21:15	1
Dissolved Organic Carbon - Duplicate	4.9		0.50	0.26	mg/L			05/06/22 21:15	1
Dissolved Organic Carbon - Quad	4.9		0.50	0.26	mg/L			05/06/22 21:15	1

Client Sample ID: CH-CCR-M64A-0422

Lab Sample ID: 550-183299-13
Date Collected: 04/26/22 11:55
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	7.1		0.10	0.010	mg/L		04/30/22 08:30	05/04/22 00:11	1
Manganese	2.6		0.010	0.00019	mg/L		04/30/22 08:30	05/04/22 00:11	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M64A-0422

Lab Sample ID: 550-183299-13
Date Collected: 04/26/22 11:55
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0018		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 18:02	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 18:02	1

Client Sample ID: CH-CCR-M65A-0422

Lab Sample ID: 550-183299-14
Date Collected: 04/26/22 16:20
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3000	D2	400	100	mg/L			05/09/22 16:04	200
Fluoride	1.7	D1	0.80	0.095	mg/L			05/09/22 14:36	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/14/22 18:35	5
Sulfate	2800	D2	400	85	mg/L			05/09/22 16:04	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 23:01	1
Lithium	0.50		0.020	0.0091	mg/L		05/09/22 17:17	05/10/22 14:27	1
Boron	10		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 23:01	1
Calcium	760		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 23:01	1
Iron	0.46		0.10	0.010	mg/L		04/30/22 08:30	05/06/22 17:51	1
Magnesium	280		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 23:01	1
Manganese	0.26		0.010	0.00019	mg/L		04/30/22 08:30	05/05/22 17:50	1
Potassium	28		0.50	0.17	mg/L		04/30/22 08:30	05/03/22 23:01	1
Sodium	1900		2.5	0.15	mg/L		04/30/22 08:30	05/05/22 17:47	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000049	E4	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:29	1
Arsenic	0.0039		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:29	1
Barium	0.012		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:29	1
Cadmium	0.000046	E4	0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:29	1
Chromium	0.0035		0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:29	1
Cobalt	0.0025		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:29	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:29	1
Molybdenum	0.091		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:29	1
Selenium	0.0010		0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:29	1
Thallium	0.000018	E4	0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:29	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.045	E4	0.050	0.039	mg/L			05/08/22 11:36	1
Alkalinity as CaCO3	170		6.0	6.0	mg/L			05/02/22 23:32	1
Bicarbonate Alkalinity as CaCO3	170		6.0	6.0	mg/L			05/02/22 23:32	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:32	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 23:32	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:32	1

Client Sample ID: CH-CCR-M65A-0422 — Lab Sample ID: 550-183299-14

Date Collected: 04/26/22 16:20
Date Received: 04/29/22 16:35
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	9100	D2	100	100	mg/L			05/02/22 13:16	1
pH	7.2	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	14.0	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.6		0.50	0.26	mg/L			05/05/22 21:32	1
Dissolved Organic Carbon - Duplicate	2.6		0.50	0.26	mg/L			05/05/22 21:32	1
Dissolved Organic Carbon - Quad	2.6		0.50	0.26	mg/L			05/05/22 21:32	1

Client Sample ID: CH-CCR-M65A-0422 — Lab Sample ID: 550-183299-15

Date Collected: 04/26/22 16:20
Date Received: 04/29/22 16:35
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.47		0.10	0.010	mg/L		04/30/22 08:30	05/04/22 00:14	1
Manganese	0.26		0.010	0.00019	mg/L		04/30/22 08:30	05/04/22 00:14	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0040		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 18:04	1
Cobalt	0.0024		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 18:04	1

Client Sample ID: CH-CCR-M66A-0422 — Lab Sample ID: 550-183299-16

Date Collected: 04/27/22 13:43
Date Received: 04/29/22 16:35
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4100	D2	400	100	mg/L			05/12/22 21:13	200
Fluoride	1.4	D1	0.80	0.095	mg/L			05/12/22 19:49	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/14/22 19:59	5
Sulfate	3000	D2	400	85	mg/L			05/12/22 21:13	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 23:25	1
Lithium	0.53		0.020	0.0091	mg/L		05/11/22 02:05	05/12/22 16:24	1
Boron	1.9		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 23:25	1
Calcium	840		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 23:25	1
Iron	0.96		0.10	0.010	mg/L		04/30/22 08:30	05/03/22 23:25	1
Magnesium	300		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 23:25	1
Manganese	3.6		0.010	0.00019	mg/L		04/30/22 08:30	05/03/22 23:25	1
Potassium	8.6		0.50	0.17	mg/L		04/30/22 08:30	05/03/22 23:25	1
Sodium	2500		5.0	0.31	mg/L		04/30/22 08:30	05/05/22 16:40	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000057	E4	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:31	1
Arsenic	0.0022		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:31	1

Client Sample ID: CH-CCR-M66A-0422

Lab Sample ID: 550-183299-16

Date Collected: 04/27/22 13:43
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.014		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:31	1
Cadmium	0.00024		0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:31	1
Chromium	0.016		0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:31	1
Cobalt	0.0012		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:31	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:31	1
Molybdenum	0.015		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:31	1
Selenium	0.0092		0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:31	1
Thallium	0.00012		0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:31	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.089		0.050	0.039	mg/L			05/08/22 11:37	1
Alkalinity as CaCO3	160		6.0	6.0	mg/L			05/02/22 22:55	1
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L			05/02/22 22:55	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 22:55	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 22:55	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 22:55	1
Total Dissolved Solids	11000	D2	100	100	mg/L			05/02/22 13:16	1
pH	7.2	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	14.2	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L			05/06/22 21:26	1
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L			05/06/22 21:26	1
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L			05/06/22 21:26	1

Client Sample ID: CH-CCR-M66A-0422

Lab Sample ID: 550-183299-17

Date Collected: 04/27/22 13:43
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.095	E4	0.10	0.010	mg/L		04/30/22 08:30	05/04/22 00:17	1
Manganese	3.6		0.010	0.00019	mg/L		04/30/22 08:30	05/04/22 00:17	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012		0.00050	0.00025	mg/L		05/03/22 11:05	05/05/22 12:04	1
Cobalt	0.0011		0.00050	0.000063	mg/L		05/03/22 11:05	05/05/22 12:04	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M67A-0422

Date Collected: 04/27/22 11:33
Date Received: 04/29/22 16:35

Lab Sample ID: 550-183299-18

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	100	mg/L			05/12/22 21:41	200
Fluoride	0.83	D1	0.80	0.095	mg/L			05/12/22 20:17	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/14/22 20:27	5
Sulfate	1600	D2	400	85	mg/L			05/12/22 21:41	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 23:27	1
Lithium	0.16		0.020	0.0091	mg/L		05/11/22 02:05	05/12/22 16:29	1
Boron	0.37		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 23:27	1
Calcium	770		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 23:27	1
Iron	4.2		0.10	0.010	mg/L		04/30/22 08:30	05/03/22 23:27	1
Magnesium	280		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 23:27	1
Manganese	2.2		0.010	0.00019	mg/L		04/30/22 08:30	05/03/22 23:27	1
Potassium	13		0.50	0.17	mg/L		04/30/22 08:30	05/03/22 23:27	1
Sodium	970		1.0	0.061	mg/L		04/30/22 08:30	05/05/22 16:42	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:33	1
Arsenic	0.0055		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:33	1
Barium	0.023		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:33	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:33	1
Chromium	0.00043	E4	0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:33	1
Cobalt	0.0054		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:33	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:33	1
Molybdenum	0.0020		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:33	1
Selenium	0.00043	E4	0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:33	1
Thallium	0.000065	E4	0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:33	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.56		0.050	0.039	mg/L			05/08/22 11:39	1
Alkalinity as CaCO3	230		6.0	6.0	mg/L			05/02/22 22:20	1
Bicarbonate Alkalinity as CaCO3	230		6.0	6.0	mg/L			05/02/22 22:20	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 22:20	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 22:20	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 22:20	1
Total Dissolved Solids	6300	D2	100	100	mg/L			05/02/22 13:16	1
pH	7.1	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	15.0	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L			05/06/22 21:38	1
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L			05/06/22 21:38	1

Client Sample ID: CH-CCR-M67A-0422

Lab Sample ID: 550-183299-18
Date Collected: 04/27/22 11:33
Matrix: Water
Date Received: 04/29/22 16:35

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L			05/06/22 21:38	1

Client Sample ID: CH-CCR-M67A-0422

Lab Sample ID: 550-183299-19
Date Collected: 04/27/22 11:33
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3.5		0.10	0.010	mg/L		05/02/22 09:18	05/03/22 18:37	1
Manganese	2.1		0.010	0.00019	mg/L		05/02/22 09:18	05/03/22 18:37	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0040		0.00050	0.00025	mg/L		05/03/22 11:05	05/05/22 12:06	1
Cobalt	0.0053		0.00050	0.000063	mg/L		05/03/22 11:05	05/05/22 12:06	1

Client Sample ID: CH-CCR-FD05-0422

Lab Sample ID: 550-183299-20
Date Collected: 04/27/22 23:00
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	380	D2	4.0	1.0	mg/L			05/12/22 20:45	2
Fluoride	0.22	D1 E4	0.80	0.095	mg/L			05/12/22 20:45	2
Sulfate	720	D2	400	85	mg/L			05/12/22 22:09	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 23:30	1
Lithium	0.087		0.020	0.0091	mg/L		05/11/22 02:05	05/12/22 16:49	1
Boron	0.23		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 23:30	1
Calcium	190		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 23:30	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000075	E4	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:35	1
Arsenic	0.0012		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:35	1
Barium	0.024		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:35	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:35	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:35	1
Cobalt	0.00073		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:35	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:35	1
Molybdenum	0.0025		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:35	1
Selenium	0.0022		0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:35	1
Thallium	0.000058	E4	0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:35	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:23	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-FD05-0422

Lab Sample ID: 550-183299-20
Date Collected: 04/27/22 23:00
Matrix: Water
Date Received: 04/29/22 16:35

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		20	20	mg/L			05/02/22 13:16	1
pH	7.4	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	15.1	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

Client Sample ID: CH-CCR-FD06-0422

Lab Sample ID: 550-183299-21
Date Collected: 04/27/22 19:00
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12000	D2	400	100	mg/L			05/14/22 12:46	200
Fluoride	1.4	D1	0.80	0.095	mg/L			05/14/22 12:18	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/14/22 20:55	5
Sulfate	9800	D2	400	85	mg/L			05/14/22 12:46	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 23:32	1
Lithium	0.52		0.020	0.0091	mg/L		05/11/22 02:05	05/12/22 16:53	1
Boron	1.9		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 23:32	1
Calcium	810		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 23:32	1
Iron	0.94		0.10	0.010	mg/L		04/30/22 08:30	05/03/22 23:32	1
Magnesium	280		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 23:32	1
Manganese	3.6		0.010	0.00019	mg/L		04/30/22 08:30	05/03/22 23:32	1
Potassium	8.2		0.50	0.17	mg/L		04/30/22 08:30	05/03/22 23:32	1
Sodium	2500		5.0	0.31	mg/L		04/30/22 08:30	05/05/22 16:45	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000060	E4	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:37	1
Arsenic	0.0026		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:37	1
Barium	0.015		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:37	1
Cadmium	0.00022		0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:37	1
Chromium	0.010		0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:37	1
Cobalt	0.0012		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:37	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:37	1
Molybdenum	0.015		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:37	1
Selenium	0.0092		0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:37	1
Thallium	0.00012		0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:37	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.060		0.050	0.039	mg/L			05/08/22 11:40	1
Alkalinity as CaCO3	160		6.0	6.0	mg/L			05/02/22 23:45	1
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L			05/02/22 23:45	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:45	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 23:45	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-FD06-0422

Lab Sample ID: 550-183299-21
Date Collected: 04/27/22 19:00
Matrix: Water
Date Received: 04/29/22 16:35

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:45	1
Total Dissolved Solids	11000	D2	100	100	mg/L			05/02/22 13:16	1
pH	7.2	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	14.2	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L			05/06/22 21:49	1
Dissolved Organic Carbon - Duplicate	2.5		0.50	0.26	mg/L			05/06/22 21:49	1
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L			05/06/22 21:49	1

Client Sample ID: CH-CCR-FD06-0422

Lab Sample ID: 550-183299-22
Date Collected: 04/27/22 19:00
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.093	E4	0.10	0.010	mg/L		05/02/22 09:18	05/03/22 18:39	1
Manganese	3.6		0.010	0.00019	mg/L		05/02/22 09:18	05/03/22 18:39	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0013		0.00050	0.00025	mg/L		05/03/22 11:05	05/05/22 12:08	1
Cobalt	0.0012		0.00050	0.000063	mg/L		05/03/22 11:05	05/05/22 12:08	1

Client Sample ID: CH-CCR-W123R-0422

Lab Sample ID: 550-183299-23
Date Collected: 04/28/22 12:20
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15000	D2	400	100	mg/L			05/14/22 13:42	200
Fluoride	5.9	D1	0.80	0.095	mg/L			05/14/22 13:14	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/14/22 22:46	5
Sulfate	12000	D2	400	85	mg/L			05/14/22 13:42	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 23:35	1
Lithium	0.52		0.020	0.0091	mg/L		05/11/22 02:05	05/12/22 16:57	1
Boron	43		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 23:35	1
Calcium	800		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 23:35	1
Iron	0.053	E4	0.10	0.010	mg/L		04/30/22 08:30	05/03/22 23:35	1
Magnesium	310		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 23:35	1
Manganese	2.8		0.010	0.00019	mg/L		04/30/22 08:30	05/03/22 23:35	1
Potassium	37		0.50	0.17	mg/L		04/30/22 08:30	05/03/22 23:35	1
Sodium	3700		5.0	0.31	mg/L		04/30/22 08:30	05/05/22 16:47	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000080	E4	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:39	1

Client Sample ID: CH-CCR-W123R-0422

Lab Sample ID: 550-183299-23

Date Collected: 04/28/22 12:20
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0058		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:39	1
Barium	0.0097		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:39	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:39	1
Chromium	0.0011		0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:39	1
Cobalt	0.0037		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:39	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:39	1
Molybdenum	0.21		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:39	1
Selenium	0.0014		0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:39	1
Thallium	0.00023		0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:39	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.3		0.050	0.039	mg/L			05/08/22 11:42	1
Alkalinity as CaCO3	54		6.0	6.0	mg/L			05/02/22 23:19	1
Bicarbonate Alkalinity as CaCO3	54		6.0	6.0	mg/L			05/02/22 23:19	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:19	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 23:19	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 23:19	1
Total Dissolved Solids	16000	D2	200	200	mg/L			05/02/22 13:16	1
pH	7.7	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	14.7	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.1	M2	0.50	0.26	mg/L			05/11/22 18:59	1
Dissolved Organic Carbon - Duplicate	2.0	M2	0.50	0.26	mg/L			05/11/22 18:59	1
Dissolved Organic Carbon - Quad	2.1	M2	0.50	0.26	mg/L			05/11/22 18:59	1

Client Sample ID: CH-CCR-W123R-0422

Lab Sample ID: 550-183299-24

Date Collected: 04/28/22 12:20
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.043	E4	0.10	0.010	mg/L		05/02/22 09:18	05/03/22 18:45	1
Manganese	2.7		0.010	0.00019	mg/L		05/02/22 09:18	05/03/22 18:45	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0048		0.00050	0.00025	mg/L		05/03/22 11:05	05/05/22 12:12	1
Cobalt	0.0041		0.00050	0.000063	mg/L		05/03/22 11:05	05/05/22 12:12	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-W125-0422

Lab Sample ID: 550-183299-25
Date Collected: 04/28/22 11:28
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	720	D2	400	100	mg/L			05/16/22 16:20	200
Fluoride	0.57	D1 E4	0.80	0.095	mg/L			05/14/22 14:10	2
Sulfate	320	D1	4.0	0.85	mg/L			05/14/22 14:10	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 23:38	1
Lithium	0.033		0.020	0.0091	mg/L		05/11/22 02:05	05/12/22 17:01	1
Boron	0.20		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 23:38	1
Calcium	120		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 23:38	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000054	E4	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:46	1
Arsenic	0.0040		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:46	1
Barium	0.021		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:46	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:46	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:46	1
Cobalt	0.00068		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:46	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:46	1
Molybdenum	0.0024		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:46	1
Selenium	0.00024	E4	0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:46	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:46	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1800		20	20	mg/L			05/02/22 14:16	1
pH	7.5	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	15.7	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

Client Sample ID: CH-CCR-W126R-0422

Lab Sample ID: 550-183299-26
Date Collected: 04/27/22 14:50
Matrix: Water
Date Received: 04/29/22 16:35

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15000	D2	400	100	mg/L			05/14/22 16:57	200
Fluoride	5.6	D1	0.80	0.095	mg/L			05/14/22 16:29	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/14/22 23:14	5
Sulfate	11000	D2	400	85	mg/L			05/14/22 16:57	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 23:40	1
Lithium	0.63		0.020	0.0091	mg/L		05/11/22 02:05	05/12/22 17:05	1
Boron	49		0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 23:40	1
Calcium	820		2.0	0.013	mg/L		04/30/22 08:30	05/03/22 23:40	1

Client Sample ID: CH-CCR-W126R-0422

Lab Sample ID: 550-183299-26

Date Collected: 04/27/22 14:50
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.10		0.10	0.010	mg/L		04/30/22 08:30	05/03/22 23:40	1
Magnesium	470		2.0	0.044	mg/L		04/30/22 08:30	05/03/22 23:40	1
Manganese	0.54		0.010	0.00019	mg/L		04/30/22 08:30	05/03/22 23:40	1
Potassium	53		0.50	0.17	mg/L		04/30/22 08:30	05/03/22 23:40	1
Sodium	4300		5.0	0.31	mg/L		04/30/22 08:30	05/05/22 16:50	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000085	E4	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:48	1
Arsenic	0.0027		0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:48	1
Barium	0.0078		0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:48	1
Cadmium	0.000063	E4	0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:48	1
Chromium	0.0079		0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:48	1
Cobalt	0.0039		0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:48	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:48	1
Molybdenum	0.25		0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:48	1
Selenium	0.0021		0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:48	1
Thallium	0.00013		0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:48	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 19:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.45		0.050	0.039	mg/L			05/08/22 11:43	1
Alkalinity as CaCO3	81		6.0	6.0	mg/L			05/02/22 22:28	1
Bicarbonate Alkalinity as CaCO3	81		6.0	6.0	mg/L			05/02/22 22:28	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 22:28	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 22:28	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 22:28	1
Total Dissolved Solids	16000	D2	200	200	mg/L			05/02/22 13:16	1
pH	7.5	H5	1.7	1.7	SU			04/30/22 16:08	1
Temperature	16.2	H5	0.1	0.1	Degrees C			04/30/22 16:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.2		0.50	0.26	mg/L			05/11/22 19:33	1
Dissolved Organic Carbon - Duplicate	2.2		0.50	0.26	mg/L			05/11/22 19:33	1
Dissolved Organic Carbon - Quad	2.2		0.50	0.26	mg/L			05/11/22 19:33	1

Client Sample ID: CH-CCR-W126R-0422

Lab Sample ID: 550-183299-27

Date Collected: 04/27/22 14:50
Matrix: Water
Date Received: 04/29/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.051	E4	0.10	0.010	mg/L		05/02/22 09:18	05/03/22 18:42	1
Manganese	0.53		0.010	0.00019	mg/L		05/02/22 09:18	05/03/22 18:42	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-W126R-0422

Lab Sample ID: 550-183299-27

Date Collected: 04/27/22 14:50

Matrix: Water

Date Received: 04/29/22 16:35

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0016		0.00050	0.00025	mg/L		05/03/22 11:05	05/05/22 12:10	1
Cobalt	0.0044		0.00050	0.000063	mg/L		05/03/22 11:05	05/05/22 12:10	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-273468/1038
Matrix: Water
Analysis Batch: 273468

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/05/22 21:56	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/05/22 21:56	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/05/22 21:56	1

Lab Sample ID: LCS 550-273468/39
Matrix: Water
Analysis Batch: 273468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.12		mg/L		103	90 - 110
Sulfate	20.0	20.7		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-273468/40
Matrix: Water
Analysis Batch: 273468

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.13		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-183585-H-45 MS
Matrix: Water
Analysis Batch: 273468

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	E2 M3	20.0	251	E2 M3	mg/L		27	80 - 120
Fluoride	1.8		4.00	5.88		mg/L		102	80 - 120
Sulfate	770	E2 M3	20.0	757	E2 M3	mg/L		-63	80 - 120

Lab Sample ID: 550-183585-H-45 MSD
Matrix: Water
Analysis Batch: 273468

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	E2 M3	20.0	251	E2 M3	mg/L		29	80 - 120	0	20
Fluoride	1.8		4.00	5.87		mg/L		102	80 - 120	0	20
Sulfate	770	E2 M3	20.0	757	E2 M3	mg/L		-59	80 - 120	0	20

Lab Sample ID: MB 550-273470/1030
Matrix: Water
Analysis Batch: 273470

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/06/22 00:34	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/06/22 00:34	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/06/22 00:34	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-273470/31
Matrix: Water
Analysis Batch: 273470

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.9		mg/L		104	90 - 110
Fluoride	4.00	4.13		mg/L		103	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-273470/32
Matrix: Water
Analysis Batch: 273470

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.13		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-183672-A-3 MS
Matrix: Water
Analysis Batch: 273470

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	240	E2 M3	20.0	243	E2 M3	mg/L		32	80 - 120
Fluoride	0.14	E4	4.00	4.38		mg/L		106	80 - 120
Sulfate	120	M3	20.0	132	M3	mg/L		77	80 - 120

Lab Sample ID: 550-183672-A-3 MSD
Matrix: Water
Analysis Batch: 273470

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	240	E2 M3	20.0	243	E2 M3	mg/L		33	80 - 120	0	20
Fluoride	0.14	E4	4.00	4.41		mg/L		107	80 - 120	1	20
Sulfate	120	M3	20.0	132	M3	mg/L		78	80 - 120	0	20

Lab Sample ID: MB 550-273472/1030
Matrix: Water
Analysis Batch: 273472

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/06/22 00:06	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/06/22 00:06	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/06/22 00:06	1

Lab Sample ID: LCS 550-273472/31
Matrix: Water
Analysis Batch: 273472

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.08		mg/L		102	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-273472/32 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273472

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	21.1		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate			20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-183648-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273472

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	99	M3	20.0	116	M3	mg/L		81	80 - 120		
Fluoride	2.5		4.00	6.68		mg/L		105	80 - 120		
Sulfate	450	E2 M3	20.0	454	E2 M3	mg/L		-3	80 - 120		

Lab Sample ID: 550-183648-E-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273472

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	99	M3	20.0	115	M3	mg/L		80	80 - 120	0	20
Fluoride	2.5		4.00	6.69		mg/L		105	80 - 120	0	20
Sulfate	450	E2 M3	20.0	454	E2 M3	mg/L		-5	80 - 120	0	20

Lab Sample ID: MB 550-273689/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273689

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/09/22 11:04	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/09/22 11:04	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/09/22 11:04	1

Lab Sample ID: LCS 550-273689/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273689

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	21.2		mg/L		106	90 - 110		
Fluoride			4.00	4.08		mg/L		102	90 - 110		
Sulfate			20.0	20.8		mg/L		104	90 - 110		

Lab Sample ID: LCSD 550-273689/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273689

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	21.3		mg/L		106	90 - 110	0	20
Fluoride			4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate			20.0	20.8		mg/L		104	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-183299-3 MS — **Client Sample ID: CH-CCR-M44D-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273689

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1100	D2	400	1520	D2	mg/L		94	80 - 120
Fluoride	1.1	E4 D1	80.0	81.7	D1	mg/L		101	80 - 120
Sulfate	320	D2	400	748	D2	mg/L		107	80 - 120

Lab Sample ID: 550-183299-3 MSD — **Client Sample ID: CH-CCR-M44D-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273689

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1100	D2	400	1520	D2	mg/L		94	80 - 120	0	20
Fluoride	1.1	E4 D1	80.0	82.0	D1	mg/L		101	80 - 120	0	20
Sulfate	320	D2	400	748	D2	mg/L		107	80 - 120	0	20

Lab Sample ID: MB 550-274046/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274046

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/12/22 11:26	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/12/22 11:26	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/12/22 11:26	1

Lab Sample ID: LCS 550-274046/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274046

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.2		mg/L		106	90 - 110
Fluoride	4.00	4.17		mg/L		104	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-274046/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274046

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.1		mg/L		105	90 - 110	1	20
Fluoride	4.00	4.17		mg/L		104	90 - 110	0	20
Sulfate	20.0	20.9		mg/L		105	90 - 110	1	20

Lab Sample ID: 550-183966-H-24 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274046

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	81	M3	20.0	98.7	M3	mg/L		87	80 - 120
Fluoride	1.2		4.00	5.34		mg/L		105	80 - 120
Sulfate	190	M3	20.0	201	E2 M3	mg/L		56	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-183966-H-24 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274046

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	81	M3	20.0	98.7	M3	mg/L		88	80 - 120	0	20
Fluoride	1.2		4.00	5.31		mg/L		104	80 - 120	0	20
Sulfate	190	M3	20.0	200	E2 M3	mg/L		54	80 - 120	0	20

Lab Sample ID: MB 550-274271/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274271

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			05/14/22 09:03	1

Lab Sample ID: LCS 550-274271/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274271

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	8.00	8.21		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-274271/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274271

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	8.22		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-183299-14 MS — **Client Sample ID: CH-CCR-M65A-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274271

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	40.3	D1	mg/L		101	80 - 120

Lab Sample ID: 550-183299-14 MSD — **Client Sample ID: CH-CCR-M65A-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274271

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	41.4	D1	mg/L		104	80 - 120	3	20

Lab Sample ID: MB 550-274272/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274272

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/14/22 08:35	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/14/22 08:35	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/14/22 08:35	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-274272/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274272

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	21.1		mg/L		105	90 - 110		
Fluoride			4.00	4.09		mg/L		102	90 - 110		
Sulfate			20.0	20.4		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-274272/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274272

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.05		mg/L		101	90 - 110	1	20
Sulfate			20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-183299-1 MS — **Client Sample ID: CH-CCR-MW43A-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274272

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	37.6	D1	mg/L		94	80 - 120		

Lab Sample ID: 550-183299-1 MSD — **Client Sample ID: CH-CCR-MW43A-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274272

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	36.6	D1	mg/L		92	80 - 120	3	20

Lab Sample ID: 550-184122-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274272

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	53	M2	40.0	87.6		mg/L		87	80 - 120		
Fluoride	0.79		8.00	8.30		mg/L		94	80 - 120		
Sulfate	230	E2 M3	40.0	253	E2 M3	mg/L		60	80 - 120		

Lab Sample ID: 550-184122-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274272

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	53	M2	40.0	84.2	M2	mg/L		79	80 - 120	4	20
Fluoride	0.79		8.00	7.80		mg/L		88	80 - 120	6	20
Sulfate	230	E2 M3	40.0	250	E2 M3	mg/L		53	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-274378/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/16/22 11:35	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/16/22 11:35	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/16/22 11:35	1

Lab Sample ID: LCS 550-274378/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.1		mg/L		106	90 - 110
Fluoride	4.00	4.05		mg/L		101	90 - 110
Sulfate	20.0	20.7		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-274378/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274378

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.07		mg/L		102	90 - 110	1	20
Sulfate	20.0	20.7		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-183376-A-1 MS ^50 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1700	M2 D2	1000	2460	D2 M2	mg/L		79	80 - 120
Fluoride	3.4	E4 D1	200	205	D1	mg/L		101	80 - 120
Sulfate	1500	D2	1000	2290	D2	mg/L		80	80 - 120

Lab Sample ID: 550-183376-A-1 MSD ^50 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1700	M2 D2	1000	2480	D2	mg/L		81	80 - 120	1	20
Fluoride	3.4	E4 D1	200	207	D1	mg/L		102	80 - 120	1	20
Sulfate	1500	D2	1000	2300	D2	mg/L		80	80 - 120	0	20

Lab Sample ID: MB 550-274453/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274453

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/17/22 11:00	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/17/22 11:00	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/17/22 11:00	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-274453/5
Matrix: Water
Analysis Batch: 274453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.01		mg/L		100	90 - 110
Sulfate	20.0	20.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-274453/6
Matrix: Water
Analysis Batch: 274453

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.1		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.04		mg/L		101	90 - 110	1	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-184142-A-4 MS
Matrix: Water
Analysis Batch: 274453

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	24		20.0	44.9		mg/L		107	80 - 120
Fluoride	0.30	E4	4.00	4.44		mg/L		103	80 - 120
Sulfate	11		20.0	32.8		mg/L		107	80 - 120

Lab Sample ID: 550-184142-A-4 MSD
Matrix: Water
Analysis Batch: 274453

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	24		20.0	44.9		mg/L		107	80 - 120	0	20
Fluoride	0.30	E4	4.00	4.44		mg/L		103	80 - 120	0	20
Sulfate	11		20.0	32.9		mg/L		107	80 - 120	0	20

Lab Sample ID: MB 550-274459/2
Matrix: Water
Analysis Batch: 274459

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			05/17/22 11:38	1

Lab Sample ID: LCS 550-274459/5
Matrix: Water
Analysis Batch: 274459

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	8.00	8.19		mg/L		102	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-274459/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274459

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N			8.00	8.20		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-183765-E-1 MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274459

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	40.3	D1	mg/L		101	80 - 120		

Lab Sample ID: 550-183765-E-1 MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274459

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	40.3	D1	mg/L		101	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-272944/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273266 — **Prep Batch: 272944**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 21:52	1
Boron	0.00534	E4	0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 21:52	1
Calcium	ND	E8	2.0	0.013	mg/L		04/30/22 08:30	05/03/22 21:52	1
Magnesium	ND	E8	2.0	0.044	mg/L		04/30/22 08:30	05/03/22 21:52	1
Potassium	ND	E8	0.50	0.17	mg/L		04/30/22 08:30	05/03/22 21:52	1

Lab Sample ID: MB 550-272944/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273500 — **Prep Batch: 272944**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/30/22 08:30	05/05/22 16:58	1
Boron	0.00635	E4	0.050	0.0025	mg/L		04/30/22 08:30	05/05/22 16:58	1
Calcium	ND	E8	2.0	0.013	mg/L		04/30/22 08:30	05/05/22 16:58	1
Magnesium	ND	E8	2.0	0.044	mg/L		04/30/22 08:30	05/05/22 16:58	1
Potassium	ND	E8	0.50	0.17	mg/L		04/30/22 08:30	05/05/22 16:58	1
Sodium	0.124	E4	0.50	0.031	mg/L		04/30/22 08:30	05/05/22 16:58	1
Manganese	ND	E8	0.010	0.00019	mg/L		04/30/22 08:30	05/05/22 16:58	1

Lab Sample ID: MB 550-272944/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273630 — **Prep Batch: 272944**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		04/30/22 08:30	05/06/22 17:22	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-272944/2-A
Matrix: Water
Analysis Batch: 273266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272944

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.10	V1	mg/L		110	85 - 115
Boron	1.00	1.03		mg/L		103	85 - 115
Calcium	21.0	22.0		mg/L		105	85 - 115
Magnesium	21.0	21.3		mg/L		101	85 - 115
Potassium	20.0	20.7		mg/L		103	85 - 115

Lab Sample ID: LCS 550-272944/2-A
Matrix: Water
Analysis Batch: 273500

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272944

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.02		mg/L		102	85 - 115
Boron	1.00	0.957		mg/L		96	85 - 115
Calcium	21.0	20.6		mg/L		98	85 - 115
Magnesium	21.0	19.8		mg/L		94	85 - 115
Potassium	20.0	19.2		mg/L		96	85 - 115
Sodium	20.0	19.5		mg/L		98	85 - 115
Manganese	1.00	1.00		mg/L		100	85 - 115

Lab Sample ID: LCS 550-272944/2-A
Matrix: Water
Analysis Batch: 273630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272944

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	0.979		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-272944/3-A
Matrix: Water
Analysis Batch: 273266

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 272944

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.05	V1	mg/L		105	85 - 115	4	20
Boron	1.00	1.02		mg/L		102	85 - 115	2	20
Calcium	21.0	21.0		mg/L		100	85 - 115	4	20
Magnesium	21.0	20.4		mg/L		97	85 - 115	4	20
Potassium	20.0	19.7		mg/L		99	85 - 115	5	20

Lab Sample ID: LCSD 550-272944/3-A
Matrix: Water
Analysis Batch: 273500

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 272944

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.992		mg/L		99	85 - 115	3	20
Boron	1.00	0.943		mg/L		94	85 - 115	1	20
Calcium	21.0	20.0		mg/L		95	85 - 115	3	20
Magnesium	21.0	19.2		mg/L		91	85 - 115	3	20
Potassium	20.0	18.6		mg/L		93	85 - 115	3	20
Sodium	20.0	18.9		mg/L		95	85 - 115	3	20
Manganese	1.00	0.992		mg/L		99	85 - 115	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-272944/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273630 — **Prep Batch: 272944**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron			1.00	0.959		mg/L		96	85 - 115	2	20

Lab Sample ID: 550-183278-A-2-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273266 — **Prep Batch: 272944**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium	ND	E8 V1	1.00	1.12	V1	mg/L		112	70 - 130		
Boron	3.0		1.00	3.98		mg/L		97	70 - 130		
Calcium	60		21.0	79.5		mg/L		94	70 - 130		
Magnesium	29		21.0	50.1		mg/L		99	70 - 130		
Potassium	45		20.0	65.2		mg/L		100	70 - 130		

Lab Sample ID: 550-183278-A-2-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273500 — **Prep Batch: 272944**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium	ND	E8	1.00	1.07		mg/L		107	70 - 130		
Boron	2.8		1.00	3.74		mg/L		92	70 - 130		
Calcium	57		21.0	76.4		mg/L		90	70 - 130		
Magnesium	28		21.0	47.4		mg/L		94	70 - 130		
Potassium	43		20.0	62.0		mg/L		95	70 - 130		
Sodium	390	M3	20.0	392	M3	mg/L		35	70 - 130		
Manganese	0.92		1.00	1.93		mg/L		101	70 - 130		

Lab Sample ID: 550-183278-A-2-A MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273630 — **Prep Batch: 272944**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Iron	0.036	E4	1.00	1.05		mg/L		101	70 - 130		

Lab Sample ID: 550-183278-A-2-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273266 — **Prep Batch: 272944**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND	E8 V1	1.00	1.15	V1	mg/L		115	70 - 130	2	20
Boron	3.0		1.00	3.97		mg/L		95	70 - 130	0	20
Calcium	60		21.0	81.0		mg/L		102	70 - 130	2	20
Magnesium	29		21.0	51.2		mg/L		104	70 - 130	2	20
Potassium	45		20.0	66.9		mg/L		109	70 - 130	3	20

Lab Sample ID: 550-183278-A-2-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273500 — **Prep Batch: 272944**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND	E8	1.00	1.08		mg/L		108	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-183278-A-2-B MSD
Matrix: Water
Analysis Batch: 273500

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 272944

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	2.8		1.00	3.69		mg/L		87	70 - 130	1	20
Calcium	57		21.0	77.5		mg/L		96	70 - 130	1	20
Magnesium	28		21.0	47.9		mg/L		96	70 - 130	1	20
Potassium	43		20.0	62.8		mg/L		100	70 - 130	1	20
Sodium	390	M3	20.0	399	M3	mg/L		69	70 - 130	2	20
Manganese	0.92		1.00	1.89		mg/L		98	70 - 130	2	20

Lab Sample ID: 550-183278-A-2-B MSD T
Matrix: Water
Analysis Batch: 273630

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 272944

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	0.036	E4	1.00	1.05		mg/L		101	70 - 130	0	20

Lab Sample ID: MB 550-272945/1-A
Matrix: Water
Analysis Batch: 273276

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 272945

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/30/22 08:30	05/03/22 23:09	1
Boron	0.00964	E4	0.050	0.0025	mg/L		04/30/22 08:30	05/03/22 23:09	1
Calcium	0.0158	E4	2.0	0.013	mg/L		04/30/22 08:30	05/03/22 23:09	1
Magnesium	ND	E8	2.0	0.044	mg/L		04/30/22 08:30	05/03/22 23:09	1
Potassium	ND	E8	0.50	0.17	mg/L		04/30/22 08:30	05/03/22 23:09	1
Sodium	0.159	E4	0.50	0.031	mg/L		04/30/22 08:30	05/03/22 23:09	1
Iron	ND	E8	0.10	0.010	mg/L		04/30/22 08:30	05/03/22 23:09	1
Manganese	ND	E8	0.010	0.00019	mg/L		04/30/22 08:30	05/03/22 23:09	1

Lab Sample ID: LCS 550-272945/2-A
Matrix: Water
Analysis Batch: 273276

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272945

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.06		mg/L		106	85 - 115
Boron	1.00	1.02		mg/L		102	85 - 115
Calcium	21.0	21.0		mg/L		100	85 - 115
Magnesium	21.0	20.5		mg/L		98	85 - 115
Potassium	20.0	20.0		mg/L		100	85 - 115
Sodium	20.0	20.4		mg/L		102	85 - 115
Iron	1.00	1.00		mg/L		100	85 - 115
Manganese	1.00	0.996		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-272945/3-A
Matrix: Water
Analysis Batch: 273276

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 272945

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.06		mg/L		106	85 - 115	0	20
Boron	1.00	1.03		mg/L		103	85 - 115	1	20
Calcium	21.0	21.1		mg/L		101	85 - 115	0	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-272945/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273276 — **Prep Batch: 272945**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Magnesium	21.0	20.5		mg/L		98	85 - 115	0	20
Potassium	20.0	20.0		mg/L		100	85 - 115	0	20
Sodium	20.0	20.4		mg/L		102	85 - 115	0	20
Iron	1.00	1.01		mg/L		101	85 - 115	1	20
Manganese	1.00	1.01		mg/L		101	85 - 115	1	20

Lab Sample ID: MB 550-273011/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273272 — **Prep Batch: 273011**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		05/02/22 09:18	05/03/22 18:19	1
Manganese	0.000380	E4	0.010	0.00019	mg/L		05/02/22 09:18	05/03/22 18:19	1

Lab Sample ID: LCS 550-273011/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273272 — **Prep Batch: 273011**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	1.01		mg/L		101	85 - 115
Manganese	1.00	0.985		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-273011/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273272 — **Prep Batch: 273011**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	1.00	1.01		mg/L		101	85 - 115	1	20
Manganese	1.00	0.986		mg/L		99	85 - 115	0	20

Lab Sample ID: MB 280-574275/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574463 — **Prep Batch: 574275**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		05/09/22 17:17	05/10/22 12:00	1

Lab Sample ID: LCS 280-574275/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574463 — **Prep Batch: 574275**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.979		mg/L		98	90 - 112

Lab Sample ID: LCSD 280-574275/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574463 — **Prep Batch: 574275**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	0.969		mg/L		97	90 - 112	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 280-162013-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574463 — **Prep Batch: 574275**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.013	E4	1.00	0.977		mg/L		96	70 - 130

Lab Sample ID: 280-162013-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574463 — **Prep Batch: 574275**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.013	E4	1.00	0.981		mg/L		97	70 - 130	0	20

Lab Sample ID: MB 280-574516/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574846 — **Prep Batch: 574516**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		05/11/22 02:05	05/12/22 15:52	1

Lab Sample ID: LCS 280-574516/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574846 — **Prep Batch: 574516**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.00		mg/L		100	90 - 112

Lab Sample ID: LCSD 280-574516/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574846 — **Prep Batch: 574516**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	1.01		mg/L		101	90 - 112	1	20

Lab Sample ID: 280-162111-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574846 — **Prep Batch: 574516**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.047		1.00	1.13		mg/L		108	70 - 130

Lab Sample ID: 280-162111-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 574846 — **Prep Batch: 574516**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.047		1.00	1.16		mg/L		112	70 - 130	3	20

Lab Sample ID: 550-183299-2 MS — **Client Sample ID: CH-CCR-MW43A-0422**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273276 — **Prep Batch: 272945**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND	E8	1.00	1.14		mg/L		114	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-183299-2 MS — **Client Sample ID: CH-CCR-MW43A-0422**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273276 — **Prep Batch: 272945**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.91		1.00	2.05		mg/L		113	70 - 130
Calcium	750	M3	21.0	795	M3	mg/L		200	70 - 130
Magnesium	220	M3	21.0	249	M3	mg/L		141	70 - 130
Potassium	9.8	M1	20.0	34.2		mg/L		122	70 - 130
Iron	2.4	M1	1.00	3.59		mg/L		115	70 - 130
Manganese	2.4		1.00	3.45		mg/L		104	70 - 130

Lab Sample ID: 550-183299-2 MSD — **Client Sample ID: CH-CCR-MW43A-0422**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273276 — **Prep Batch: 272945**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND	E8	1.00	1.21		mg/L		121	70 - 130	6	20
Boron	0.91		1.00	2.11		mg/L		120	70 - 130	3	20
Calcium	750	M3	21.0	846	M3	mg/L		445	70 - 130	6	20
Magnesium	220	M3	21.0	265	M3	mg/L		214	70 - 130	6	20
Potassium	9.8	M1	20.0	36.2	M1	mg/L		132	70 - 130	6	20
Iron	2.4	M1	1.00	3.85	M1	mg/L		141	70 - 130	7	20
Manganese	2.4		1.00	3.56		mg/L		114	70 - 130	3	20

Lab Sample ID: 550-182324-A-13-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273272 — **Prep Batch: 273011**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	0.043	E4	1.00	0.975		mg/L		93	70 - 130
Manganese	0.44		1.00	1.40		mg/L		96	70 - 130

Lab Sample ID: 550-182324-A-13-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273272 — **Prep Batch: 273011**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	0.043	E4	1.00	1.01		mg/L		97	70 - 130	3	20
Manganese	0.44		1.00	1.40		mg/L		95	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-272986/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273103 — **Prep Batch: 272986**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/30/22 13:01	05/02/22 16:10	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/30/22 13:01	05/02/22 16:10	1
Barium	ND	E8	0.00050	0.00026	mg/L		04/30/22 13:01	05/02/22 16:10	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:01	05/02/22 16:10	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/30/22 13:01	05/02/22 16:10	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/30/22 13:01	05/02/22 16:10	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:01	05/02/22 16:10	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-272986/1-A
Matrix: Water
Analysis Batch: 273103

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 272986

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/30/22 13:01	05/02/22 16:10	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/30/22 13:01	05/02/22 16:10	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/30/22 13:01	05/02/22 16:10	1

Lab Sample ID: LCS 550-272986/2-A
Matrix: Water
Analysis Batch: 273103

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272986

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0930		mg/L		93	85 - 115
Arsenic	0.100	0.0932		mg/L		93	85 - 115
Barium	0.100	0.106		mg/L		106	85 - 115
Cadmium	0.100	0.0995		mg/L		99	85 - 115
Chromium	0.100	0.0960		mg/L		96	85 - 115
Cobalt	0.100	0.0938		mg/L		94	85 - 115
Lead	0.100	0.0942		mg/L		94	85 - 115
Molybdenum	0.100	0.0967		mg/L		97	85 - 115
Selenium	0.100	0.0905		mg/L		91	85 - 115
Thallium	0.100	0.0958		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-272986/3-A
Matrix: Water
Analysis Batch: 273103

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 272986

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0923		mg/L		92	85 - 115	1	20
Arsenic	0.100	0.0930		mg/L		93	85 - 115	0	20
Barium	0.100	0.104		mg/L		104	85 - 115	2	20
Cadmium	0.100	0.100		mg/L		100	85 - 115	1	20
Chromium	0.100	0.0960		mg/L		96	85 - 115	0	20
Cobalt	0.100	0.0984		mg/L		98	85 - 115	5	20
Lead	0.100	0.0985		mg/L		98	85 - 115	4	20
Molybdenum	0.100	0.0980		mg/L		98	85 - 115	1	20
Selenium	0.100	0.0918		mg/L		92	85 - 115	1	20
Thallium	0.100	0.102		mg/L		102	85 - 115	7	20

Lab Sample ID: 550-182903-B-1-G MS
Matrix: Water
Analysis Batch: 273103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 272986

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.00015	E4	0.100	0.0949		mg/L		95	70 - 130
Arsenic	ND	E8	0.100	0.0956		mg/L		96	70 - 130
Barium	0.027		0.100	0.130		mg/L		104	70 - 130
Cadmium	0.038		0.100	0.138		mg/L		100	70 - 130
Chromium	0.00076	E4	0.100	0.0988		mg/L		98	70 - 130
Cobalt	0.0086		0.100	0.105		mg/L		96	70 - 130
Lead	0.017		0.100	0.117		mg/L		100	70 - 130
Molybdenum	ND	E8	0.100	0.103		mg/L		103	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-182903-B-1-G MS
Matrix: Water
Analysis Batch: 273103

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 272986

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	ND	E8	0.100	0.0962		mg/L		96	70 - 130
Thallium	0.000071	E4	0.100	0.106		mg/L		106	70 - 130

Lab Sample ID: 550-182903-B-1-H MSD
Matrix: Water
Analysis Batch: 273103

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 272986

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00015	E4	0.100	0.0947		mg/L		95	70 - 130	0	20
Arsenic	ND	E8	0.100	0.0948		mg/L		95	70 - 130	1	20
Barium	0.027		0.100	0.134		mg/L		107	70 - 130	3	20
Cadmium	0.038		0.100	0.139		mg/L		102	70 - 130	1	20
Chromium	0.00076	E4	0.100	0.0981		mg/L		97	70 - 130	1	20
Cobalt	0.0086		0.100	0.105		mg/L		97	70 - 130	1	20
Lead	0.017		0.100	0.112		mg/L		95	70 - 130	5	20
Molybdenum	ND	E8	0.100	0.102		mg/L		102	70 - 130	1	20
Selenium	ND	E8	0.100	0.0947		mg/L		95	70 - 130	2	20
Thallium	0.000071	E4	0.100	0.102		mg/L		102	70 - 130	4	20

Lab Sample ID: MB 550-272987/1-A
Matrix: Water
Analysis Batch: 273102

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 272987

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/30/22 13:04	05/02/22 17:10	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/30/22 13:04	05/02/22 17:10	1
Barium	ND	E8	0.00050	0.00026	mg/L		04/30/22 13:04	05/02/22 17:10	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/30/22 13:04	05/02/22 17:10	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/30/22 13:04	05/02/22 17:10	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/30/22 13:04	05/02/22 17:10	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/30/22 13:04	05/02/22 17:10	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/30/22 13:04	05/02/22 17:10	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/30/22 13:04	05/02/22 17:10	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/30/22 13:04	05/02/22 17:10	1

Lab Sample ID: LCS 550-272987/2-A
Matrix: Water
Analysis Batch: 273102

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272987

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0916		mg/L		92	85 - 115
Arsenic	0.100	0.0923		mg/L		92	85 - 115
Barium	0.100	0.102		mg/L		102	85 - 115
Cadmium	0.100	0.0992		mg/L		99	85 - 115
Chromium	0.100	0.0959		mg/L		96	85 - 115
Cobalt	0.100	0.0936		mg/L		94	85 - 115
Lead	0.100	0.104		mg/L		104	85 - 115
Molybdenum	0.100	0.0991		mg/L		99	85 - 115
Selenium	0.100	0.0924		mg/L		92	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-272987/2-A
Matrix: Water
Analysis Batch: 273102

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 272987

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.109		mg/L		109	85 - 115

Lab Sample ID: LCSD 550-272987/3-A
Matrix: Water
Analysis Batch: 273102

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 272987

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0886		mg/L		89	85 - 115	3	20
Arsenic	0.100	0.0911		mg/L		91	85 - 115	1	20
Barium	0.100	0.100		mg/L		100	85 - 115	2	20
Cadmium	0.100	0.0976		mg/L		98	85 - 115	2	20
Chromium	0.100	0.0974		mg/L		97	85 - 115	2	20
Cobalt	0.100	0.0973		mg/L		97	85 - 115	4	20
Lead	0.100	0.102		mg/L		102	85 - 115	2	20
Molybdenum	0.100	0.0977		mg/L		98	85 - 115	1	20
Selenium	0.100	0.0919		mg/L		92	85 - 115	1	20
Thallium	0.100	0.107		mg/L		107	85 - 115	3	20

Lab Sample ID: 550-183275-D-2-B MS
Matrix: Water
Analysis Batch: 273102

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 272987

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.00077	E4	0.100	0.0936		mg/L		93	70 - 130
Arsenic	0.0038		0.100	0.101		mg/L		97	70 - 130
Barium	0.065		0.100	0.174		mg/L		109	70 - 130
Cadmium	0.000099	E4	0.100	0.0962		mg/L		96	70 - 130
Chromium	0.0024		0.100	0.0990		mg/L		97	70 - 130
Cobalt	0.00020	E4	0.100	0.0958		mg/L		96	70 - 130
Lead	0.00063		0.100	0.0945		mg/L		94	70 - 130
Molybdenum	0.012		0.100	0.113		mg/L		101	70 - 130
Selenium	0.00037	E4	0.100	0.0965		mg/L		96	70 - 130
Thallium	0.000040	E4	0.100	0.0977		mg/L		98	70 - 130

Lab Sample ID: 550-183275-D-2-C MSD
Matrix: Water
Analysis Batch: 273102

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 272987

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00077	E4	0.100	0.0974		mg/L		97	70 - 130	4	20
Arsenic	0.0038		0.100	0.102		mg/L		98	70 - 130	1	20
Barium	0.065		0.100	0.181		mg/L		116	70 - 130	4	20
Cadmium	0.000099	E4	0.100	0.0987		mg/L		99	70 - 130	3	20
Chromium	0.0024		0.100	0.101		mg/L		98	70 - 130	2	20
Cobalt	0.00020	E4	0.100	0.0961		mg/L		96	70 - 130	0	20
Lead	0.00063		0.100	0.0923		mg/L		92	70 - 130	2	20
Molybdenum	0.012		0.100	0.117		mg/L		106	70 - 130	4	20
Selenium	0.00037	E4	0.100	0.0959		mg/L		96	70 - 130	1	20
Thallium	0.000040	E4	0.100	0.0963		mg/L		96	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-273116/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273411 — **Prep Batch: 273116**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		05/03/22 11:05	05/05/22 11:45	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		05/03/22 11:05	05/05/22 11:45	1

Lab Sample ID: LCS 550-273116/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273411 — **Prep Batch: 273116**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0970		mg/L		97	85 - 115
Cobalt	0.100	0.104		mg/L		104	85 - 115

Lab Sample ID: LCSD 550-273116/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273411 — **Prep Batch: 273116**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.100	0.0945		mg/L		94	85 - 115	3	20
Cobalt	0.100	0.0985		mg/L		99	85 - 115	5	20

Lab Sample ID: 550-183278-A-2-E MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273411 — **Prep Batch: 273116**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.00042	E4	0.100	0.101		mg/L		100	70 - 130
Cobalt	0.016		0.100	0.117		mg/L		101	70 - 130

Lab Sample ID: 550-183278-A-2-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273411 — **Prep Batch: 273116**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.00042	E4	0.100	0.100		mg/L		100	70 - 130	0	20
Cobalt	0.016		0.100	0.114		mg/L		98	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-273159/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273230 — **Prep Batch: 273159**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/03/22 15:25	05/03/22 18:43	1

Lab Sample ID: LCS 550-273159/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273230 — **Prep Batch: 273159**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hg	0.00500	0.00498		mg/L		100	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 550-273159/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273230 — **Prep Batch: 273159**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00482		mg/L		96	85 - 115	3	20

Lab Sample ID: 550-183388-B-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273230 — **Prep Batch: 273159**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg	ND	E8	0.00500	0.00488		mg/L		98	70 - 130		

Lab Sample ID: 550-183388-B-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273230 — **Prep Batch: 273159**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00478		mg/L		96	70 - 130	2	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-273400/21 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273400

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/05/22 08:20	1

Lab Sample ID: LCS 550-273400/22 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273400

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia			1.00	0.979		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-273400/23 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273400

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia			1.00	0.974		mg/L		97	90 - 110	1	20

Lab Sample ID: 550-183455-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273400

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia	1.0	M2	1.00	1.92	M2	mg/L		88	90 - 110		

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: 550-183455-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273400

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.0	M2	1.00	2.02	E2	mg/L		98	90 - 110	5	20

Lab Sample ID: MB 550-273601/60 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273601

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/08/22 10:55	1

Lab Sample ID: LCS 550-273601/61 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273601

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia			1.00	0.977		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-273601/62 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273601

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia			1.00	0.992		mg/L		99	90 - 110	2	20

Lab Sample ID: 550-183299-5 MS — **Client Sample ID: CH-CCR-M46A-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273601

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia	0.66		1.00	1.56		mg/L		90	90 - 110		

Lab Sample ID: 550-183299-5 MSD — **Client Sample ID: CH-CCR-M46A-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273601

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.66		1.00	1.67		mg/L		102	90 - 110	7	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-273105/29 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273105

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 21:19	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 21:19	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 21:19	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/02/22 21:19	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/02/22 21:19	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 550-273105/28 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273105

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	247		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-273105/41 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273105

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	248		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-183218-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273105

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	340			340		mg/L				0.09	20
Bicarbonate Alkalinity as CaCO3	340			340		mg/L				0.09	20
Carbonate Alkalinity as CaCO3	ND	E8		ND	E8	mg/L				NC	20
Alkalinity, Phenolphthalein	ND	E8		ND	E8	mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND	E8		ND	E8	mg/L				NC	20

Lab Sample ID: 550-183299-16 DU — **Client Sample ID: CH-CCR-M66A-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273105

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	160			156		mg/L				0.06	20
Bicarbonate Alkalinity as CaCO3	160			156		mg/L				0.06	20
Carbonate Alkalinity as CaCO3	ND	E8		ND	E8	mg/L				NC	20
Alkalinity, Phenolphthalein	ND	E8		ND	E8	mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND	E8		ND	E8	mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-273035/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273035

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			05/02/22 13:16	1

Lab Sample ID: LCS 550-273035/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273035

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	980		mg/L		98	90 - 110		

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-273035/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273035

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	974		mg/L		97	90 - 110	1	10

Lab Sample ID: 550-183298-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273035

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	4900	D2		4610	D2	mg/L				6	10

Lab Sample ID: 550-183299-16 DU — **Client Sample ID: CH-CCR-M66A-0422**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273035

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	11000	D2		10500	D2	mg/L				2	10

Lab Sample ID: MB 550-273046/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273046

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			05/02/22 14:16	1

Lab Sample ID: LCS 550-273046/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273046

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	980		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-273046/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273046

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	980		mg/L		98	90 - 110	0	10

Lab Sample ID: 550-183306-H-9 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 273046

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	500			502		mg/L				0.4	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-272996/13
Matrix: Water
Analysis Batch: 272996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-272996/25
Matrix: Water
Analysis Batch: 272996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-272996/37
Matrix: Water
Analysis Batch: 272996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0	H5	SU		100.0	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-272996/49
Matrix: Water
Analysis Batch: 272996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: 550-183172-C-1 DU
Matrix: Water
Analysis Batch: 272996

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	H5		7.4	H5	SU				0.1	5
Temperature	13.4	H5		13.1	H5	Degrees C				2	

Lab Sample ID: 550-183299-3 DU
Matrix: Water
Analysis Batch: 272996

Client Sample ID: CH-CCR-M44D-0422
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.0	H5		7.0	H5	SU				0	5
Temperature	14.9	H5		14.2	H5	Degrees C				5	

Lab Sample ID: 550-183299-20 DU
Matrix: Water
Analysis Batch: 272996

Client Sample ID: CH-CCR-FD05-0422
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	H5		7.4	H5	SU				0.1	5
Temperature	15.1	H5		14.5	H5	Degrees C				4	

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-273420/1-A
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			05/05/22 19:00	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			05/05/22 19:00	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			05/05/22 19:00	1

Lab Sample ID: LCS 550-273518/6
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	19.4		mg/L		97	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	19.4		mg/L		97	90 - 110
Dissolved Organic Carbon - Quad	20.0	19.4		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-273518/7
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.5		mg/L		92	90 - 110	5	20
Dissolved Organic Carbon - Duplicate	20.0	18.5		mg/L		92	90 - 110	5	20
Dissolved Organic Carbon - Quad	20.0	18.5		mg/L		92	90 - 110	5	20

Lab Sample ID: 550-182959-A-4 MS ^4
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	140	M2 D2	80.0	171	D2 M2	mg/L		44	90 - 110
Dissolved Organic Carbon - Duplicate	140	M2 D2	80.0	171	D2 M2	mg/L		44	90 - 110
Dissolved Organic Carbon - Quad	140	M2 D2	80.0	171	D2 M2	mg/L		44	90 - 110

Lab Sample ID: 550-182959-A-4 MSD ^4
Matrix: Water
Analysis Batch: 273518

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	140	M2 D2	80.0	172	D2 M2	mg/L		45	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	140	M2 D2	80.0	172	D2 M2	mg/L		45	90 - 110	1	20
Dissolved Organic Carbon - Quad	140	M2 D2	80.0	172	D2 M2	mg/L		45	90 - 110	1	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-273420/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273721

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			05/06/22 19:55	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			05/06/22 19:55	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			05/06/22 19:55	1

Lab Sample ID: LCSD 550-273721/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273721

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	19.8		mg/L		99	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	19.8		mg/L		99	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	19.8		mg/L		99	90 - 110	1	20

Lab Sample ID: 550-183299-1 MS — **Client Sample ID: CH-CCR-MW43A-0422**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273721

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	1.4	M2	20.0	20.0		mg/L		93	90 - 110
Dissolved Organic Carbon - Duplicate	1.4	M2	20.0	20.0		mg/L		93	90 - 110
Dissolved Organic Carbon - Quad	1.4	M2	20.0	20.0		mg/L		93	90 - 110

Lab Sample ID: 550-183299-1 MSD — **Client Sample ID: CH-CCR-MW43A-0422**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273721

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.4	M2	20.0	19.2	M2	mg/L		89	90 - 110	4	20
Dissolved Organic Carbon - Duplicate	1.4	M2	20.0	19.2	M2	mg/L		89	90 - 110	4	20
Dissolved Organic Carbon - Quad	1.4	M2	20.0	19.2	M2	mg/L		89	90 - 110	4	20

Lab Sample ID: MB 550-273968/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 273968

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			05/11/22 18:27	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			05/11/22 18:27	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			05/11/22 18:27	1

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCS 550-273968/5
Matrix: Water
Analysis Batch: 273968

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Dissolved Organic Carbon			20.0	19.9		mg/L		100	90 - 110		
Dissolved Organic Carbon - Duplicate			20.0	19.9		mg/L		100	90 - 110		
Dissolved Organic Carbon - Quad			20.0	19.9		mg/L		100	90 - 110		

Lab Sample ID: LCSD 550-273968/6
Matrix: Water
Analysis Batch: 273968

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon			20.0	20.4		mg/L		102	90 - 110	2	20
Dissolved Organic Carbon - Duplicate			20.0	20.4		mg/L		102	90 - 110	2	20
Dissolved Organic Carbon - Quad			20.0	20.4		mg/L		102	90 - 110	2	20

Lab Sample ID: 550-183299-23 MS
Matrix: Water
Analysis Batch: 273968

Client Sample ID: CH-CCR-W123R-0422
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Dissolved Organic Carbon	2.1	M2	20.0	16.6	M2	mg/L		73	90 - 110		
Dissolved Organic Carbon - Duplicate	2.0	M2	20.0	16.6	M2	mg/L		73	90 - 110		
Dissolved Organic Carbon - Quad	2.1	M2	20.0	16.6	M2	mg/L		73	90 - 110		

Lab Sample ID: 550-183299-23 MSD
Matrix: Water
Analysis Batch: 273968

Client Sample ID: CH-CCR-W123R-0422
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	2.1	M2	20.0	16.0	M2	mg/L		70	90 - 110	4	20
Dissolved Organic Carbon - Duplicate	2.0	M2	20.0	16.0	M2	mg/L		70	90 - 110	4	20
Dissolved Organic Carbon - Quad	2.1	M2	20.0	16.0	M2	mg/L		70	90 - 110	4	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

HPLC/IC

Analysis Batch: 273468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	300.0	
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	300.0	
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	300.0	
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	300.0	
MB 550-273468/1038	Method Blank	Total/NA	Water	300.0	
LCS 550-273468/39	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-273468/40	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183585-H-45 MS	Matrix Spike	Total/NA	Water	300.0	
550-183585-H-45 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 273470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	300.0	
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	300.0	
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	300.0	
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	300.0	
MB 550-273470/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-273470/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-273470/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183672-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
550-183672-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 273472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	300.0	
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	300.0	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	300.0	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	300.0	
MB 550-273472/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-273472/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-273472/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183648-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-183648-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 273689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	300.0	
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	300.0	
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	300.0	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	300.0	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	300.0	
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	300.0	
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	300.0	
MB 550-273689/2	Method Blank	Total/NA	Water	300.0	
LCS 550-273689/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-273689/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183299-3 MS	CH-CCR-M44D-0422	Total/NA	Water	300.0	
550-183299-3 MSD	CH-CCR-M44D-0422	Total/NA	Water	300.0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

HPLC/IC

Analysis Batch: 274046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	300.0	
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	300.0	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	300.0	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	300.0	
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	300.0	
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	300.0	
MB 550-274046/2	Method Blank	Total/NA	Water	300.0	
LCS 550-274046/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274046/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183966-H-24 MS	Matrix Spike	Total/NA	Water	300.0	
550-183966-H-24 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 274271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	300.0	
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	300.0	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	300.0	
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	300.0	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	300.0	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	300.0	
MB 550-274271/2	Method Blank	Total/NA	Water	300.0	
LCS 550-274271/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274271/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183299-14 MS	CH-CCR-M65A-0422	Total/NA	Water	300.0	
550-183299-14 MSD	CH-CCR-M65A-0422	Total/NA	Water	300.0	

Analysis Batch: 274272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	300.0	
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	300.0	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	300.0	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	300.0	
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	300.0	
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	300.0	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	300.0	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	300.0	
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	300.0	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	300.0	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	300.0	
MB 550-274272/2	Method Blank	Total/NA	Water	300.0	
LCS 550-274272/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274272/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183299-1 MS	CH-CCR-MW43A-0422	Total/NA	Water	300.0	
550-183299-1 MSD	CH-CCR-MW43A-0422	Total/NA	Water	300.0	
550-184122-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184122-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 274378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	300.0	
MB 550-274378/2	Method Blank	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 274378 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-274378/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274378/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183376-A-1 MS ^50	Matrix Spike	Total/NA	Water	300.0	
550-183376-A-1 MSD ^50	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 274453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-274453/2	Method Blank	Total/NA	Water	300.0	
LCS 550-274453/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274453/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184142-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
550-184142-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 274459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	300.0	
MB 550-274459/2	Method Blank	Total/NA	Water	300.0	
LCS 550-274459/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274459/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-183765-E-1 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-183765-E-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 272944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	200.7	
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	200.7	
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	200.7	
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	200.7	
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	200.7	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	200.7	
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	200.7	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	200.7	
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	200.7	
MB 550-272944/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-272944/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-272944/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-183278-A-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-183278-A-2-A MS T	Matrix Spike	Total/NA	Water	200.7	
550-183278-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-183278-A-2-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 272945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-2	CH-CCR-MW43A-0422	Dissolved	Water	200.7	
550-183299-6	CH-CCR-M46A-0422	Dissolved	Water	200.7	
550-183299-8	CH-CCR-M50A-0422	Dissolved	Water	200.7	
550-183299-10	CH-CCR-M51A-0422	Dissolved	Water	200.7	
550-183299-13	CH-CCR-M64A-0422	Dissolved	Water	200.7	
550-183299-15	CH-CCR-M65A-0422	Dissolved	Water	200.7	

Metals (Continued)

Prep Batch: 272945 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	200.7	
550-183299-17	CH-CCR-M66A-0422	Dissolved	Water	200.7	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	200.7	
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	200.7	
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	200.7	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	200.7	
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	200.7	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	200.7	
MB 550-272945/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-272945/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-272945/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-183299-2 MS	CH-CCR-MW43A-0422	Dissolved	Water	200.7	
550-183299-2 MSD	CH-CCR-MW43A-0422	Dissolved	Water	200.7	

Prep Batch: 272986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	200.8	
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	200.8	
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	200.8	
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	200.8	
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	200.8	
MB 550-272986/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-272986/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-272986/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-182903-B-1-G MS	Matrix Spike	Total/NA	Water	200.8	
550-182903-B-1-H MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 272987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-2	CH-CCR-MW43A-0422	Dissolved	Water	200.8	
550-183299-6	CH-CCR-M46A-0422	Dissolved	Water	200.8	
550-183299-8	CH-CCR-M50A-0422	Dissolved	Water	200.8	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	200.8	
550-183299-10	CH-CCR-M51A-0422	Dissolved	Water	200.8	
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	200.8	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	200.8	
550-183299-13	CH-CCR-M64A-0422	Dissolved	Water	200.8	
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	200.8	
550-183299-15	CH-CCR-M65A-0422	Dissolved	Water	200.8	
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	200.8	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	200.8	
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	200.8	
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	200.8	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	200.8	
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	200.8	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	200.8	
MB 550-272987/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-272987/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-272987/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-183275-D-2-B MS	Matrix Spike	Total/NA	Water	200.8	
550-183275-D-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Metals

Prep Batch: 273011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-19	CH-CCR-M67A-0422	Dissolved	Water	200.7	
550-183299-22	CH-CCR-FD06-0422	Dissolved	Water	200.7	
550-183299-24	CH-CCR-W123R-0422	Dissolved	Water	200.7	
550-183299-27	CH-CCR-W126R-0422	Dissolved	Water	200.7	
MB 550-273011/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-273011/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-273011/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-182324-A-13-A MS	Matrix Spike	Dissolved	Water	200.7	
550-182324-A-13-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	

Analysis Batch: 273102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-2	CH-CCR-MW43A-0422	Dissolved	Water	200.8 LL	272987
550-183299-6	CH-CCR-M46A-0422	Dissolved	Water	200.8 LL	272987
550-183299-8	CH-CCR-M50A-0422	Dissolved	Water	200.8 LL	272987
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	200.8 LL	272987
550-183299-10	CH-CCR-M51A-0422	Dissolved	Water	200.8 LL	272987
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	200.8 LL	272987
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	200.8 LL	272987
550-183299-13	CH-CCR-M64A-0422	Dissolved	Water	200.8 LL	272987
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	200.8 LL	272987
550-183299-15	CH-CCR-M65A-0422	Dissolved	Water	200.8 LL	272987
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	200.8 LL	272987
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	200.8 LL	272987
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	200.8 LL	272987
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	200.8 LL	272987
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	200.8 LL	272987
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	200.8 LL	272987
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	200.8 LL	272987
MB 550-272987/1-A	Method Blank	Total/NA	Water	200.8 LL	272987
LCS 550-272987/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272987
LCSD 550-272987/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272987
550-183275-D-2-B MS	Matrix Spike	Total/NA	Water	200.8 LL	272987
550-183275-D-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	272987

Analysis Batch: 273103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	200.8 LL	272986
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	200.8 LL	272986
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	200.8 LL	272986
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	200.8 LL	272986
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	200.8 LL	272986
MB 550-272986/1-A	Method Blank	Total/NA	Water	200.8 LL	272986
LCS 550-272986/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	272986
LCSD 550-272986/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	272986
550-182903-B-1-G MS	Matrix Spike	Total/NA	Water	200.8 LL	272986
550-182903-B-1-H MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	272986

Prep Batch: 273116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-17	CH-CCR-M66A-0422	Dissolved	Water	200.8	

Metals (Continued)

Prep Batch: 273116 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-19	CH-CCR-M67A-0422	Dissolved	Water	200.8	
550-183299-22	CH-CCR-FD06-0422	Dissolved	Water	200.8	
550-183299-24	CH-CCR-W123R-0422	Dissolved	Water	200.8	
550-183299-27	CH-CCR-W126R-0422	Dissolved	Water	200.8	
MB 550-273116/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-273116/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-273116/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-183278-A-2-E MS	Matrix Spike	Total/NA	Water	200.8	
550-183278-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 273144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	200.8 LL	272987

Prep Batch: 273159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	245.1	
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	245.1	
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	245.1	
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	245.1	
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	245.1	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	245.1	
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	245.1	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	245.1	
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	245.1	
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	245.1	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	245.1	
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	245.1	
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	245.1	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	245.1	
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	245.1	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	245.1	
MB 550-273159/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-273159/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-273159/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-183388-B-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-183388-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 273230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	245.1	273159
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	245.1	273159
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	245.1	273159
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	245.1	273159
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	245.1	273159
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	245.1	273159
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	245.1	273159
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	245.1	273159
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	245.1	273159
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	245.1	273159
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	245.1	273159

Metals (Continued)

Analysis Batch: 273230 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	245.1	273159
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	245.1	273159
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	245.1	273159
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	245.1	273159
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	245.1	273159
MB 550-273159/1-A	Method Blank	Total/NA	Water	245.1	273159
LCS 550-273159/2-A	Lab Control Sample	Total/NA	Water	245.1	273159
LCSD 550-273159/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	273159
550-183388-B-1-A MS	Matrix Spike	Total/NA	Water	245.1	273159
550-183388-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	273159

Analysis Batch: 273266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	200.7 Rev 4.4	272944
MB 550-272944/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272944
LCS 550-272944/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272944
LCSD 550-272944/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272944
550-183278-A-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	272944
550-183278-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	272944

Analysis Batch: 273272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-19	CH-CCR-M67A-0422	Dissolved	Water	200.7 Rev 4.4	273011
550-183299-22	CH-CCR-FD06-0422	Dissolved	Water	200.7 Rev 4.4	273011
550-183299-24	CH-CCR-W123R-0422	Dissolved	Water	200.7 Rev 4.4	273011
550-183299-27	CH-CCR-W126R-0422	Dissolved	Water	200.7 Rev 4.4	273011
MB 550-273011/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	273011
LCS 550-273011/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	273011
LCSD 550-273011/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	273011
550-182324-A-13-A MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	273011
550-182324-A-13-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	273011

Analysis Batch: 273276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-2	CH-CCR-MW43A-0422	Dissolved	Water	200.7 Rev 4.4	272945
550-183299-6	CH-CCR-M46A-0422	Dissolved	Water	200.7 Rev 4.4	272945
550-183299-8	CH-CCR-M50A-0422	Dissolved	Water	200.7 Rev 4.4	272945
550-183299-10	CH-CCR-M51A-0422	Dissolved	Water	200.7 Rev 4.4	272945
550-183299-13	CH-CCR-M64A-0422	Dissolved	Water	200.7 Rev 4.4	272945
550-183299-15	CH-CCR-M65A-0422	Dissolved	Water	200.7 Rev 4.4	272945
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	200.7 Rev 4.4	272945
550-183299-17	CH-CCR-M66A-0422	Dissolved	Water	200.7 Rev 4.4	272945
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	200.7 Rev 4.4	272945

Metals (Continued)

Analysis Batch: 273276 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	200.7 Rev 4.4	272945
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	200.7 Rev 4.4	272945
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	200.7 Rev 4.4	272945
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	200.7 Rev 4.4	272945
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	200.7 Rev 4.4	272945
MB 550-272945/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272945
LCS 550-272945/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272945
LCSD 550-272945/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272945
550-183299-2 MS	CH-CCR-MW43A-0422	Dissolved	Water	200.7 Rev 4.4	272945
550-183299-2 MSD	CH-CCR-MW43A-0422	Dissolved	Water	200.7 Rev 4.4	272945

Analysis Batch: 273411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-17	CH-CCR-M66A-0422	Dissolved	Water	200.8 LL	273116
550-183299-19	CH-CCR-M67A-0422	Dissolved	Water	200.8 LL	273116
550-183299-22	CH-CCR-FD06-0422	Dissolved	Water	200.8 LL	273116
550-183299-24	CH-CCR-W123R-0422	Dissolved	Water	200.8 LL	273116
550-183299-27	CH-CCR-W126R-0422	Dissolved	Water	200.8 LL	273116
MB 550-273116/1-A	Method Blank	Total/NA	Water	200.8 LL	273116
LCS 550-273116/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	273116
LCSD 550-273116/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	273116
550-183278-A-2-E MS	Matrix Spike	Total/NA	Water	200.8 LL	273116
550-183278-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	273116

Analysis Batch: 273499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	200.7 Rev 4.4	272945
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	200.7 Rev 4.4	272945
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	200.7 Rev 4.4	272945
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	200.7 Rev 4.4	272945
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	200.7 Rev 4.4	272945

Analysis Batch: 273500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	200.7 Rev 4.4	272944
MB 550-272944/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272944
LCS 550-272944/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272944
LCSD 550-272944/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272944
550-183278-A-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	272944
550-183278-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	272944

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Metals

Analysis Batch: 273630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	200.7 Rev 4.4	272944
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	200.7 Rev 4.4	272944
MB 550-272944/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	272944
LCS 550-272944/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	272944
LCSD 550-272944/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	272944
550-183278-A-2-A MS T	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	272944
550-183278-A-2-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	272944

Prep Batch: 574275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	200.7	
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	200.7	
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	200.7	
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	200.7	
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	200.7	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	200.7	
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	200.7	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	200.7	
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	200.7	
MB 280-574275/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-574275/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-574275/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-162013-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-162013-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 574463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	200.7 Rev 4.4	574275
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	200.7 Rev 4.4	574275
MB 280-574275/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	574275
LCS 280-574275/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	574275
LCSD 280-574275/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	574275
280-162013-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	574275
280-162013-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	574275

Prep Batch: 574516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	200.7	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	200.7	
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 574516 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	200.7	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	200.7	
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	200.7	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	200.7	
MB 280-574516/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-574516/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-574516/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-162111-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-162111-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 574846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	200.7 Rev 4.4	574516
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	200.7 Rev 4.4	574516
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	200.7 Rev 4.4	574516
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	200.7 Rev 4.4	574516
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	200.7 Rev 4.4	574516
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	200.7 Rev 4.4	574516
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	200.7 Rev 4.4	574516
MB 280-574516/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	574516
LCS 280-574516/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	574516
LCSD 280-574516/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	574516
280-162111-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	574516
280-162111-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	574516

General Chemistry

Analysis Batch: 272996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	SM 4500 H+ B	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272996/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272996/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272996/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-272996/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-183172-C-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-183299-3 DU	CH-CCR-M44D-0422	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 272996 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-20 DU	CH-CCR-FD05-0422	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 273035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	SM 2540C	
550-183299-4	CH-CCR-M45A-0422	Total/NA	Water	SM 2540C	
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	SM 2540C	
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	SM 2540C	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	SM 2540C	
550-183299-11	CH-CCR-M63A-0422	Total/NA	Water	SM 2540C	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	SM 2540C	
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	SM 2540C	
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	SM 2540C	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	SM 2540C	
550-183299-20	CH-CCR-FD05-0422	Total/NA	Water	SM 2540C	
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	SM 2540C	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	SM 2540C	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	SM 2540C	
MB 550-273035/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-273035/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-273035/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-183298-A-2 DU	Duplicate	Total/NA	Water	SM 2540C	
550-183299-16 DU	CH-CCR-M66A-0422	Total/NA	Water	SM 2540C	

Analysis Batch: 273046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-3	CH-CCR-M44D-0422	Total/NA	Water	SM 2540C	
550-183299-25	CH-CCR-W125-0422	Total/NA	Water	SM 2540C	
MB 550-273046/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-273046/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-273046/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-183306-H-9 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 273105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	SM 2320B	
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	SM 2320B	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	SM 2320B	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	SM 2320B	
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	SM 2320B	
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	SM 2320B	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	SM 2320B	
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	SM 2320B	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	SM 2320B	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	SM 2320B	
MB 550-273105/29	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-273105/28	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-273105/41	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-183218-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-183299-16 DU	CH-CCR-M66A-0422	Total/NA	Water	SM 2320B	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

General Chemistry

Analysis Batch: 273400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Total/NA	Water	350.1	
MB 550-273400/21	Method Blank	Total/NA	Water	350.1	
LCS 550-273400/22	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-273400/23	Lab Control Sample Dup	Total/NA	Water	350.1	
550-183455-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-183455-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Filtration Batch: 273420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-273420/1-A	Method Blank	Dissolved	Water	Filtration	

Analysis Batch: 273518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-14	CH-CCR-M65A-0422	Dissolved	Water	SM 5310B	
MB 550-273420/1-A	Method Blank	Dissolved	Water	SM 5310B	273420
LCS 550-273518/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-273518/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-182959-A-4 MS ^4	Matrix Spike	Dissolved	Water	SM 5310B	
550-182959-A-4 MSD ^4	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	

Analysis Batch: 273601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-5	CH-CCR-M46A-0422	Total/NA	Water	350.1	
550-183299-7	CH-CCR-M50A-0422	Total/NA	Water	350.1	
550-183299-9	CH-CCR-M51A-0422	Total/NA	Water	350.1	
550-183299-12	CH-CCR-M64A-0422	Total/NA	Water	350.1	
550-183299-14	CH-CCR-M65A-0422	Total/NA	Water	350.1	
550-183299-16	CH-CCR-M66A-0422	Total/NA	Water	350.1	
550-183299-18	CH-CCR-M67A-0422	Total/NA	Water	350.1	
550-183299-21	CH-CCR-FD06-0422	Total/NA	Water	350.1	
550-183299-23	CH-CCR-W123R-0422	Total/NA	Water	350.1	
550-183299-26	CH-CCR-W126R-0422	Total/NA	Water	350.1	
MB 550-273601/60	Method Blank	Total/NA	Water	350.1	
LCS 550-273601/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-273601/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-183299-5 MS	CH-CCR-M46A-0422	Total/NA	Water	350.1	
550-183299-5 MSD	CH-CCR-M46A-0422	Total/NA	Water	350.1	

Analysis Batch: 273721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1	CH-CCR-MW43A-0422	Dissolved	Water	SM 5310B	
550-183299-5	CH-CCR-M46A-0422	Dissolved	Water	SM 5310B	
550-183299-7	CH-CCR-M50A-0422	Dissolved	Water	SM 5310B	
550-183299-9	CH-CCR-M51A-0422	Dissolved	Water	SM 5310B	
550-183299-12	CH-CCR-M64A-0422	Dissolved	Water	SM 5310B	
550-183299-16	CH-CCR-M66A-0422	Dissolved	Water	SM 5310B	
550-183299-18	CH-CCR-M67A-0422	Dissolved	Water	SM 5310B	
550-183299-21	CH-CCR-FD06-0422	Dissolved	Water	SM 5310B	
MB 550-273420/1-A	Method Blank	Dissolved	Water	SM 5310B	273420
LCSD 550-273721/6	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-183299-1 MS	CH-CCR-MW43A-0422	Dissolved	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 273721 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-1 MSD	CH-CCR-MW43A-0422	Dissolved	Water	SM 5310B	

Analysis Batch: 273968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183299-23	CH-CCR-W123R-0422	Dissolved	Water	SM 5310B	
550-183299-26	CH-CCR-W126R-0422	Dissolved	Water	SM 5310B	
MB 550-273968/4	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-273968/5	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-273968/6	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-183299-23 MS	CH-CCR-W123R-0422	Dissolved	Water	SM 5310B	
550-183299-23 MSD	CH-CCR-W123R-0422	Dissolved	Water	SM 5310B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-MW43A-0422

Lab Sample ID: 550-183299-1
Date Collected: 04/26/22 15:15
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273468	05/06/22 04:04	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273468	05/06/22 04:59	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274272	05/14/22 23:01	RDC	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:40	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273500	05/05/22 17:19	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273630	05/06/22 17:38	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 13:54	LMT	TAL DEN
Total/NA	Prep	200.8			272986	04/30/22 13:01	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273103	05/02/22 16:56	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 18:57	SRR	TAL PHX
Total/NA	Analysis	350.1		1	273400	05/05/22 09:06	MAN	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273721	05/06/22 20:05	MEG	TAL PHX

Client Sample ID: CH-CCR-MW43A-0422

Lab Sample ID: 550-183299-2
Date Collected: 04/26/22 15:15
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273276	05/03/22 23:22	MGM	TAL PHX
Dissolved	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Dissolved	Analysis	200.8 LL		1	273102	05/02/22 17:54	ARE	TAL PHX

Client Sample ID: CH-CCR-M44D-0422

Lab Sample ID: 550-183299-3
Date Collected: 04/29/22 10:20
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273468	05/06/22 04:23	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273468	05/06/22 05:18	AS1	TAL PHX
Total/NA	Analysis	300.0		20	273689	05/09/22 13:04	AS1	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:43	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 13:58	LMT	TAL DEN

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M44D-0422

Lab Sample ID: 550-183299-3
Date Collected: 04/29/22 10:20
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			272986	04/30/22 13:01	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273103	05/02/22 16:58	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:00	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	273046		CHS	TAL PHX
					(Start)	05/02/22 14:16		
					(End)	05/03/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX

Client Sample ID: CH-CCR-M45A-0422

Lab Sample ID: 550-183299-4
Date Collected: 04/26/22 14:12
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273470	05/06/22 04:45	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273470	05/06/22 05:41	AS1	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:46	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 14:02	LMT	TAL DEN
Total/NA	Prep	200.8			272986	04/30/22 13:01	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273103	05/02/22 17:00	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:01	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX

Client Sample ID: CH-CCR-M46A-0422

Lab Sample ID: 550-183299-5
Date Collected: 04/27/22 09:55
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273470	05/06/22 05:13	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273470	05/06/22 06:09	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274459	05/17/22 20:01	AS1	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:48	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	273500	05/05/22 17:21	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273500	05/05/22 17:24	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M46A-0422 — Lab Sample ID: 550-183299-5

Date Collected: 04/27/22 09:55
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273630	05/06/22 17:41	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 14:06	LMT	TAL DEN
Total/NA	Prep	200.8			272986	04/30/22 13:01	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273103	05/02/22 17:02	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:03	SRR	TAL PHX
Total/NA	Analysis	350.1		1	273601	05/08/22 11:27	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	273105	05/02/22 23:25	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273721	05/06/22 20:38	MEG	TAL PHX

Client Sample ID: CH-CCR-M46A-0422 — Lab Sample ID: 550-183299-6

Date Collected: 04/27/22 09:55
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273276	05/04/22 00:04	MGM	TAL PHX
Dissolved	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Dissolved	Analysis	200.8 LL		1	273102	05/02/22 17:56	ARE	TAL PHX

Client Sample ID: CH-CCR-M50A-0422 — Lab Sample ID: 550-183299-7

Date Collected: 04/28/22 10:20
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273472	05/06/22 03:49	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273472	05/06/22 04:45	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274272	05/15/22 00:24	RDC	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:51	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	273500	05/05/22 17:26	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273500	05/05/22 17:29	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273630	05/06/22 17:43	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 14:11	LMT	TAL DEN

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M50A-0422

Lab Sample ID: 550-183299-7
Date Collected: 04/28/22 10:20
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			272986	04/30/22 13:01	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273103	05/02/22 17:04	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:05	SRR	TAL PHX
Total/NA	Analysis	350.1		1	273601	05/08/22 11:31	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	273105	05/02/22 22:33	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273721	05/06/22 20:51	MEG	TAL PHX

Client Sample ID: CH-CCR-M50A-0422

Lab Sample ID: 550-183299-8
Date Collected: 04/28/22 10:20
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273276	05/04/22 00:06	MGM	TAL PHX
Dissolved	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Dissolved	Analysis	200.8 LL		1	273102	05/02/22 17:58	ARE	TAL PHX

Client Sample ID: CH-CCR-M51A-0422

Lab Sample ID: 550-183299-9
Date Collected: 04/28/22 09:25
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273472	05/06/22 04:17	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273472	05/06/22 05:13	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274272	05/15/22 00:52	RDC	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:53	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	273500	05/05/22 17:32	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273500	05/05/22 17:39	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273630	05/06/22 17:46	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 14:15	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:23	ARE	TAL PHX
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		2	273144	05/03/22 12:13	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M51A-0422

Lab Sample ID: 550-183299-9
Date Collected: 04/28/22 09:25
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:07	SRR	TAL PHX
Total/NA	Analysis	350.1		1	273601	05/08/22 11:33	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	273105	05/02/22 23:39	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273721	05/06/22 21:03	MEG	TAL PHX

Client Sample ID: CH-CCR-M51A-0422

Lab Sample ID: 550-183299-10
Date Collected: 04/28/22 09:25
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273276	05/04/22 00:09	MGM	TAL PHX
Dissolved	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Dissolved	Analysis	200.8 LL		1	273102	05/02/22 18:00	ARE	TAL PHX

Client Sample ID: CH-CCR-M63A-0422

Lab Sample ID: 550-183299-11
Date Collected: 04/27/22 16:13
Matrix: Water
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273689	05/09/22 13:59	AS1	TAL PHX
Total/NA	Analysis	300.0		20	273689	05/09/22 15:28	AS1	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:56	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 14:19	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:25	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:09	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M64A-0422 — Lab Sample ID: 550-183299-12

Date Collected: 04/26/22 11:55
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273689	05/09/22 14:17	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273689	05/09/22 15:46	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274272	05/15/22 01:20	RDC	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 22:59	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	273500	05/05/22 17:42	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273500	05/05/22 17:45	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273630	05/06/22 17:48	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 14:23	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:27	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:11	SRR	TAL PHX
Total/NA	Analysis	350.1		1	273601	05/08/22 11:34	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	273105	05/02/22 23:10	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273721	05/06/22 21:15	MEG	TAL PHX

Client Sample ID: CH-CCR-M64A-0422 — Lab Sample ID: 550-183299-13

Date Collected: 04/26/22 11:55
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273276	05/04/22 00:11	MGM	TAL PHX
Dissolved	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Dissolved	Analysis	200.8 LL		1	273102	05/02/22 18:02	ARE	TAL PHX

Client Sample ID: CH-CCR-M65A-0422 — Lab Sample ID: 550-183299-14

Date Collected: 04/26/22 16:20
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	273689	05/09/22 14:36	AS1	TAL PHX
Total/NA	Analysis	300.0		200	273689	05/09/22 16:04	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274271	05/14/22 18:35	RDC	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M65A-0422 — Lab Sample ID: 550-183299-14

Date Collected: 04/26/22 16:20
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273266	05/03/22 23:01	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	273500	05/05/22 17:47	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273500	05/05/22 17:50	MGM	TAL PHX
Total/NA	Prep	200.7			272944	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273630	05/06/22 17:51	MGM	TAL PHX
Total/NA	Prep	200.7			574275	05/09/22 17:17	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574463	05/10/22 14:27	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:29	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:17	SRR	TAL PHX
Total/NA	Analysis	350.1		1	273601	05/08/22 11:36	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	273105	05/02/22 23:32	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273518	05/05/22 21:32	MEG	TAL PHX

Client Sample ID: CH-CCR-M65A-0422 — Lab Sample ID: 550-183299-15

Date Collected: 04/26/22 16:20
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273276	05/04/22 00:14	MGM	TAL PHX
Dissolved	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Dissolved	Analysis	200.8 LL		1	273102	05/02/22 18:04	ARE	TAL PHX

Client Sample ID: CH-CCR-M66A-0422 — Lab Sample ID: 550-183299-16

Date Collected: 04/27/22 13:43
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274046	05/12/22 19:49	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274046	05/12/22 21:13	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274271	05/14/22 19:59	RDC	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273276	05/03/22 23:25	MGM	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	273499	05/05/22 16:40	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M66A-0422 — Lab Sample ID: 550-183299-16

Date Collected: 04/27/22 13:43 — **Matrix: Water**
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			574516	05/11/22 02:05	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574846	05/12/22 16:24	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:31	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:19	SRR	TAL PHX
Total/NA	Analysis	350.1		1	273601	05/08/22 11:37	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	273105	05/02/22 22:55	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273721	05/06/22 21:26	MEG	TAL PHX

Client Sample ID: CH-CCR-M66A-0422 — Lab Sample ID: 550-183299-17

Date Collected: 04/27/22 13:43 — **Matrix: Water**
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273276	05/04/22 00:17	MGM	TAL PHX
Dissolved	Prep	200.8			273116	05/03/22 11:05	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	273411	05/05/22 12:04	ARE	TAL PHX

Client Sample ID: CH-CCR-M67A-0422 — Lab Sample ID: 550-183299-18

Date Collected: 04/27/22 11:33 — **Matrix: Water**
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274046	05/12/22 20:17	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274046	05/12/22 21:41	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274271	05/14/22 20:27	RDC	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273276	05/03/22 23:27	MGM	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	273499	05/05/22 16:42	MGM	TAL PHX
Total/NA	Prep	200.7			574516	05/11/22 02:05	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574846	05/12/22 16:29	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:33	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:21	SRR	TAL PHX
Total/NA	Analysis	350.1		1	273601	05/08/22 11:39	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	273105	05/02/22 22:20	CHS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-M67A-0422 — Lab Sample ID: 550-183299-18

Date Collected: 04/27/22 11:33
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273721	05/06/22 21:38	MEG	TAL PHX

Client Sample ID: CH-CCR-M67A-0422 — Lab Sample ID: 550-183299-19

Date Collected: 04/27/22 11:33
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			273011	05/02/22 09:18	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273272	05/03/22 18:37	MGM	TAL PHX
Dissolved	Prep	200.8			273116	05/03/22 11:05	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	273411	05/05/22 12:06	ARE	TAL PHX

Client Sample ID: CH-CCR-FD05-0422 — Lab Sample ID: 550-183299-20

Date Collected: 04/27/22 23:00
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274046	05/12/22 20:45	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274046	05/12/22 22:09	AS1	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273276	05/03/22 23:30	MGM	TAL PHX
Total/NA	Prep	200.7			574516	05/11/22 02:05	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574846	05/12/22 16:49	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:35	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:23	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX

Client Sample ID: CH-CCR-FD06-0422 — Lab Sample ID: 550-183299-21

Date Collected: 04/27/22 19:00
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	274271	05/14/22 20:55	RDC	TAL PHX
Total/NA	Analysis	300.0		2	274272	05/14/22 12:18	RDC	TAL PHX
Total/NA	Analysis	300.0		200	274272	05/14/22 12:46	RDC	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273276	05/03/22 23:32	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-FD06-0422 — Lab Sample ID: 550-183299-21

Date Collected: 04/27/22 19:00 — **Matrix: Water**
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	273499	05/05/22 16:45	MGM	TAL PHX
Total/NA	Prep	200.7			574516	05/11/22 02:05	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574846	05/12/22 16:53	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:37	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:25	SRR	TAL PHX
Total/NA	Analysis	350.1		1	273601	05/08/22 11:40	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	273105	05/02/22 23:45	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273721	05/06/22 21:49	MEG	TAL PHX

Client Sample ID: CH-CCR-FD06-0422 — Lab Sample ID: 550-183299-22

Date Collected: 04/27/22 19:00 — **Matrix: Water**
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			273011	05/02/22 09:18	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273272	05/03/22 18:39	MGM	TAL PHX
Dissolved	Prep	200.8			273116	05/03/22 11:05	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	273411	05/05/22 12:08	ARE	TAL PHX

Client Sample ID: CH-CCR-W123R-0422 — Lab Sample ID: 550-183299-23

Date Collected: 04/28/22 12:20 — **Matrix: Water**
Date Received: 04/29/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	274271	05/14/22 22:46	RDC	TAL PHX
Total/NA	Analysis	300.0		2	274272	05/14/22 13:14	RDC	TAL PHX
Total/NA	Analysis	300.0		200	274272	05/14/22 13:42	RDC	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273276	05/03/22 23:35	MGM	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	273499	05/05/22 16:47	MGM	TAL PHX
Total/NA	Prep	200.7			574516	05/11/22 02:05	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574846	05/12/22 16:57	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:39	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:27	SRR	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-W123R-0422 — Lab Sample ID: 550-183299-23

Date Collected: 04/28/22 12:20
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	273601	05/08/22 11:42	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	273105	05/02/22 23:19	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273968	05/11/22 18:59	MEG	TAL PHX

Client Sample ID: CH-CCR-W123R-0422 — Lab Sample ID: 550-183299-24

Date Collected: 04/28/22 12:20
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			273011	05/02/22 09:18	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273272	05/03/22 18:45	MGM	TAL PHX
Dissolved	Prep	200.8			273116	05/03/22 11:05	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	273411	05/05/22 12:12	ARE	TAL PHX

Client Sample ID: CH-CCR-W125-0422 — Lab Sample ID: 550-183299-25

Date Collected: 04/28/22 11:28
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200	274378	05/16/22 16:20	JNW	TAL PHX
Total/NA	Analysis	300.0		2	274272	05/14/22 14:10	RDC	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273276	05/03/22 23:38	MGM	TAL PHX
Total/NA	Prep	200.7			574516	05/11/22 02:05	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574846	05/12/22 17:01	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:46	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:29	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	273046		CHS	TAL PHX
					(Start)	05/02/22 14:16		
					(End)	05/03/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX

Client Sample ID: CH-CCR-W126R-0422 — Lab Sample ID: 550-183299-26

Date Collected: 04/27/22 14:50
Date Received: 04/29/22 16:35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	274271	05/14/22 23:14	RDC	TAL PHX
Total/NA	Analysis	300.0		2	274272	05/14/22 16:29	RDC	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Client Sample ID: CH-CCR-W126R-0422

Lab Sample ID: 550-183299-26

Date Collected: 04/27/22 14:50
Date Received: 04/29/22 16:35

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200	274272	05/14/22 16:57	RDC	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	273276	05/03/22 23:40	MGM	TAL PHX
Total/NA	Prep	200.7			272945	04/30/22 08:30	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	273499	05/05/22 16:50	MGM	TAL PHX
Total/NA	Prep	200.7			574516	05/11/22 02:05	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	574846	05/12/22 17:05	LMT	TAL DEN
Total/NA	Prep	200.8			272987	04/30/22 13:04	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	273102	05/02/22 17:48	ARE	TAL PHX
Total/NA	Prep	245.1			273159	05/03/22 15:25	SRR	TAL PHX
Total/NA	Analysis	245.1		1	273230	05/03/22 19:31	SRR	TAL PHX
Total/NA	Analysis	350.1		1	273601	05/08/22 11:43	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	273105	05/02/22 22:28	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	273035		CHS	TAL PHX
					(Start)	05/02/22 13:16		
					(End)	05/03/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	272996	04/30/22 16:08	CXK	TAL PHX
Dissolved	Analysis	SM 5310B		1	273968	05/11/22 19:33	MEG	TAL PHX

Client Sample ID: CH-CCR-W126R-0422

Lab Sample ID: 550-183299-27

Date Collected: 04/27/22 14:50
Date Received: 04/29/22 16:35

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			273011	05/02/22 09:18	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	273272	05/03/22 18:42	MGM	TAL PHX
Dissolved	Prep	200.8			273116	05/03/22 11:05	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	273411	05/05/22 12:10	ARE	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon
SM 5310B		Water	Dissolved Organic Carbon - Duplicate
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Laboratory: Eurofins Denver (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wyoming (UST)	A2LA	2907.01	10-31-22

Method Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-183299-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Roberts, Danielle C.

From: Wuollet, Mari <mari.wuollet@woodplc.com>
Sent: Wednesday, June 15, 2022 3:27 PM
To: Roberts, Danielle C.
Subject: FW: APS Cholla PP April-May Missing Metals Results

Importance: High

EXTERNAL EMAIL*

Hi again Danielle,

Just want to make sure you saw this one too (forwarded below). This is not as urgent as the RL issue. Hopefully samples from the jobs below are even available for the missing analyses.
Please let me know. We appreciate your help.

Thank you again,
Mari

From: Wuollet, Mari <mari.wuollet@woodplc.com>
Sent: Friday, June 10, 2022 10:45
To: Sester, Rachel E. <Rachel.Sester@et.eurofinsus.com>
Cc: Carroll, Zachary T <zachary.carroll@woodplc.com>; Weaver, Becky <rebecca.weaver@woodplc.com>; Ramirez, Adam <adam.ramirez@woodplc.com>
Subject: APS Cholla PP April-May Missing Metals Results
Importance: High

Hi Rachel,

It looks like **dissolved iron and manganese results are missing from job 183663 sample IDs CH-CCR-MW69A-0522 and CH-CCR-MW70M-0522**.
Also **total manganese result is missing from job 183299 from sample ID CH-CCR-M43A-0422**.
Looks like those were all marked on COCs during sample relinquishment.

There were also some incorrectly marked COCs when samples were relinquished.

- On **job 183297** the wrong 200.7 analysis column was incorrectly marked and we **also needed total Fe, Mn, K, Mg, and Na for CH-CCR-MW77A-0422**
- On **job 183663** wrong 200.7 analysis was again marked and we **also needed total Mg and Na for CH-CCR-301, CH-CCR-303-0522, CH-CCR -306-0522**

Can these results please be added to the associated data packages and revisions be sent over by next week?
Please let us know if you need anything else for this, thanks!
Mari

Mari Wuollet
Technical Professional – Junior Hydrogeologist
Mobile: +1(480) 938-7059
www.woodplc.com

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Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

183299

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica I

550-183299 Chain of Custody

6/21/2022 (Rev. 1)

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 2
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only**
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	SM 2320B (HCO3 - Alk. as CaCO3)		Sample Spe
CH-CCR-M43A-0422	4/26/2022	15:15	G	W	8	*		X	X			X	X	X	X	X	X	X	X	X		-01 +02	Low
CH-CCR-M44D-0422	4/29/2022	10:20	G	W	2	N		X			X		X		X	X	X					-03	"
CH-CCR-M45A-0422	4/26/2022	14:12	G	W	2	N		X			X		X		X	X	X					-04	"
CH-CCR-M46A-0422	4/27/2022	09:55	G	W	8	*		X		X		X	X	X	X	X	X	X	X	X	X	-05 +06	"
CH-CCR-M50A-0422	4/28/2022	10:20	G	W	8	*		X		X		X	X	X	X	X	X	X	X	X	X	-07 +08	"
CH-CCR-M51A-0422	4/28/2022	09:25	G	W	8	*		X		X		X	X	X	X	X	X	X	X	X	X	-09 +10	"
CH-CCR-M63A-0422	4/27/22	16:13	G	W	2	N		X			X		X		X	X	X					-11	"
CH-CCR-M64A-0422	4/26/22	11:55	G	W	8	*		X		X		X	X	X	X	X	X	X	X	X	X	-12 +13	"
CH-CCR-M65A-0422	4/26/22	16:20	G	W	8	*		X		X		X	X	X	X	X	X	X	X	X	X	14 +15	"
CH-CCR-M66A-0422	4/27/22	13:43	G	W	8	*		X		X		X	X	X	X	X	X	X	X	X	X	16 +17	"
CH-CCR-M67A-0422	4/27/22	11:33	G	W	8	*		X		X		X	X	X	X	X	X	X	X	X	X	18 +19	"
CH-CCR-FD05-0422	4/27/22	23:00	G	W	2	N		X			X		X		X	X	X					-20	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	1	1	2	3	3	1		

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.2°C, 0.4°C IR Gun

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	WSOL	4/29/22 16:35			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Tanner Germany	Company:	Date/Time: 4-29-22 1635

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

183299

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

6/21/2022 (Rev. 1)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 2 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 5310B (TOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li)	SM 2320B (CO3, HCO3 - Alk. as CaCO3)	SM 2320B (HCO3 - Alk. as CaCO3)	Sample Specific Notes:
CH-CCR-FD06-0422	4/27/22	19:00	G	W	8	*	N	X		X	X	X	X	X	X	X	X		X	X			X	-21 + 22 Low Flow
CH-CCR-W123R-0422	4/28/22	12:20	G	W	8	*		X		X	X	X	X	X	X	X	X		X	X			X	23 + 24 "
CH-CCR-W125-0422	4/28/22	11:28	G	W	2	N		X				X		X	X	X					X			25 "
CH-CCR-W126R-0422	4/27/22	14:50	G	W	8	*		X		X	X	X	X	X	X	X	X		X	X			X	26 + 27 "
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	1	1	2	2	3	3	4	1	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0 °C, 0.4°C IR CRO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company: WJOL	Date/Time: 4/28/22 16:35	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: Eurofins	Date/Time: 4-29-22 1435

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-33876.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-183299-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 5/12/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Cholla CCR	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-MW43A-0422 (550-183299-1)	4/26/22	15:15 Arizona		Water			X	1	AZ Sample
CH-CCR-M44D-0422 (550-183299-3)	4/29/22	10:20 Arizona		Water			X	1	AZ Sample
CH-CCR-M45A-0422 (550-183299-4)	4/26/22	14:12 Arizona		Water			X	1	AZ Sample
CH-CCR-M46A-0422 (550-183299-5)	4/27/22	09:55 Arizona		Water			X	1	AZ Sample
CH-CCR-M50A-0422 (550-183299-7)	4/28/22	10:20 Arizona		Water			X	1	AZ Sample
CH-CCR-M51A-0422 (550-183299-9)	4/28/22	09:25 Arizona		Water			X	1	AZ Sample
CH-CCR-M63A-0422 (550-183299-11)	4/27/22	16:13 Arizona		Water			X	1	AZ Sample
CH-CCR-M64A-0422 (550-183299-12)	4/26/22	11:55 Arizona		Water			X	1	AZ Sample
CH-CCR-M65A-0422 (550-183299-14)	4/26/22	16:20 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible]	05-05-22 15:30	[illegible]	Fedex		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
			[illegible]	5/6/22 1100	EADEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.8 ef+0.1 IR12

Ver: 06/08/2021

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-33876.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-183299-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 5/12/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Cholla CCR	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M66A-0422 (550-183299-16)	4/27/22	13:43 Arizona		Water			X	1	AZ Sample
CH-CCR-M67A-0422 (550-183299-18)	4/27/22	11:33 Arizona		Water			X	1	AZ Sample
CH-CCR-FD05-0422 (550-183299-20)	4/27/22	23:00 Arizona		Water			X	1	AZ Sample
CH-CCR-FD06-0422 (550-183299-21)	4/27/22	19:00 Arizona		Water			X	1	AZ Sample
CH-CCR-W123R-0422 (550-183299-23)	4/28/22	12:20 Arizona		Water			X	1	AZ Sample
CH-CCR-W125-0422 (550-183299-25)	4/28/22	11:28 Arizona		Water			X	1	AZ Sample
CH-CCR-W126R-0422 (550-183299-26)	4/27/22	14:50 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [illegible] 05-05-22	Date/Time: 15:30	Company: EOTSW	Received by: Fedex	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: Meredith Bass	Date/Time: 5/6/22 1100	Company: EMADEW
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and other Remarks: 5.8 CF+0.1 FR 12

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-183299-1

Login Number: 183299
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-183299-1

Login Number: 183299
List Number: 2
Creator: Roehsner, Karen P

List Source: Eurofins Denver
List Creation: 05/06/22 02:43 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184147-1
Client Project/Site: APS - Cholla CCR

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
5/24/2022 3:31:07 PM

Rachel Sester, Project Manager I
(602)659-7615
Rachel.Sester@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Metals

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184147-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184147-1

Comments
No additional comments.

Receipt
The samples were received on 5/13/2022 4:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.1º C and 0.4º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184147-1	CH-CCR-M54-0522	Water	05/13/22 09:13	05/13/22 16:15
550-184147-2	CH-CCR-M59-0522	Water	05/13/22 11:13	05/13/22 16:15
550-184147-3	CH-CCR-M60-0522	Water	05/13/22 08:13	05/13/22 16:15
550-184147-4	CH-CCR-M61-0522	Water	05/13/22 10:18	05/13/22 16:15
550-184147-5	CH-CCR-FD01-0522	Water	05/13/22 08:13	05/13/22 16:15

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Client Sample ID: CH-CCR-M54-0522 — Lab Sample ID: 550-184147-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	360	D2	100	21	mg/L	50		300.0	Total/NA
Boron	0.50		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	99		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	3100	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M59-0522 — Lab Sample ID: 550-184147-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	350	D2	100	21	mg/L	50		300.0	Total/NA
Boron	0.50		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	89		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M60-0522 — Lab Sample ID: 550-184147-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	360	D2	100	21	mg/L	50		300.0	Total/NA
Boron	0.50		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	87		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	3800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M61-0522 — Lab Sample ID: 550-184147-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	360	D2	100	21	mg/L	50		300.0	Total/NA
Boron	0.49		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	90		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	3800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD01-0522 — Lab Sample ID: 550-184147-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	350	D2	100	21	mg/L	50		300.0	Total/NA
Boron	0.52		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	89		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Client Sample ID: CH-CCR-FD01-0522 (Continued) — Lab Sample ID: 550-184147-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	3800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Client Sample ID: CH-CCR-M54-0522

Lab Sample ID: 550-184147-1
Date Collected: 05/13/22 09:13
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	100	mg/L			05/20/22 02:02	200
Fluoride	1.4	D1	0.80	0.095	mg/L			05/20/22 00:30	2
Sulfate	360	D2	100	21	mg/L			05/20/22 13:20	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.50		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:19	1
Calcium	99		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3100	D2	100	100	mg/L			05/17/22 14:39	1
pH	7.6	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	12.9	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-M59-0522

Lab Sample ID: 550-184147-2
Date Collected: 05/13/22 11:13
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1200	D2	400	100	mg/L			05/20/22 02:21	200
Fluoride	1.4	D1	0.80	0.095	mg/L			05/20/22 00:49	2
Sulfate	350	D2	100	21	mg/L			05/20/22 13:38	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.50		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:21	1
Calcium	89		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2900	D2	100	100	mg/L			05/17/22 14:39	1
pH	7.9	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	12.1	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-M60-0522

Lab Sample ID: 550-184147-3
Date Collected: 05/13/22 08:13
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	100	mg/L			05/20/22 01:07	200
Fluoride	1.4	D1	0.80	0.095	mg/L			05/19/22 23:35	2
Sulfate	360	D2	100	21	mg/L			05/20/22 12:25	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.50		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:16	1
Calcium	87		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:07	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Client Sample ID: CH-CCR-M60-0522

Lab Sample ID: 550-184147-3
Matrix: Water
Date Collected: 05/13/22 08:13
Date Received: 05/13/22 16:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3800	D2	100	100	mg/L			05/17/22 14:39	1
pH	7.8	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	12.3	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-M61-0522

Lab Sample ID: 550-184147-4
Matrix: Water
Date Collected: 05/13/22 10:18
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1200	D2	400	100	mg/L			05/20/22 06:01	200
Fluoride	1.4	D1	0.80	0.095	mg/L			05/20/22 04:29	2
Sulfate	360	D2	100	21	mg/L			05/20/22 13:57	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.49		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:24	1
Calcium	90		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3800	D2	100	100	mg/L			05/17/22 14:39	1
pH	7.6	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	13.1	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-FD01-0522

Lab Sample ID: 550-184147-5
Matrix: Water
Date Collected: 05/13/22 08:13
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	400	100	mg/L			05/20/22 06:20	200
Fluoride	1.4	D1	0.80	0.095	mg/L			05/20/22 04:48	2
Sulfate	350	D2	100	21	mg/L			05/20/22 14:15	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.52		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:26	1
Calcium	89		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3800	D2	100	100	mg/L			05/17/22 14:39	1
pH	7.6	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	13.9	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-274719/1041 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/19/22 22:40	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/19/22 22:40	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/19/22 22:40	1

Lab Sample ID: LCS 550-274719/42 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.9		mg/L		104	90 - 110
Fluoride	4.00	4.09		mg/L		102	90 - 110
Sulfate	20.0	20.5		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-274719/43 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.08		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.5		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184147-3 MS — **Client Sample ID: CH-CCR-M60-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.4	D1	8.00	9.71	D1	mg/L		103	80 - 120

Lab Sample ID: 550-184147-3 MS — **Client Sample ID: CH-CCR-M60-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1400	D2	4000	5720	D2	mg/L		108	80 - 120

Lab Sample ID: 550-184147-3 MSD — **Client Sample ID: CH-CCR-M60-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	1.4	D1	8.00	9.75	D1	mg/L		104	80 - 120	0	20

Lab Sample ID: 550-184147-3 MSD — **Client Sample ID: CH-CCR-M60-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1400	D2	4000	5700	D2	mg/L		108	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-184150-A-23 MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride	0.55	E4 D1	8.00	7.79	D1	mg/L		90	80 - 120		

Lab Sample ID: 550-184150-A-23 MS ^200 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	2700	D2	4000	7180	D2	mg/L		111	80 - 120		
Sulfate	2900	D2	4000	7160	D2	mg/L		107	80 - 120		

Lab Sample ID: 550-184150-A-23 MSD ^2 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.55	E4 D1	8.00	7.97	D1	mg/L		93	80 - 120	2	20

Lab Sample ID: 550-184150-A-23 MSD ^200 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2700	D2	4000	7190	D2	mg/L		111	80 - 120	0	20
Sulfate	2900	D2	4000	7180	D2	mg/L		108	80 - 120	0	20

Lab Sample ID: MB 550-274836/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/20/22 10:44	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/20/22 10:44	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/20/22 10:44	1

Lab Sample ID: LCS 550-274836/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.9		mg/L		104	90 - 110
Fluoride	4.00	4.11		mg/L		103	90 - 110
Sulfate	20.0	20.5		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-274836/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.10		mg/L		103	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-274836/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate			20.0	20.5		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184147-3 MS — **Client Sample ID: CH-CCR-M60-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate	360	D2	1000	1400	D2	mg/L		105	80 - 120		

Lab Sample ID: 550-184147-3 MSD — **Client Sample ID: CH-CCR-M60-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	360	D2	1000	1400	D2	mg/L		105	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-274401/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274623 — **Prep Batch: 274401**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00535	E4	0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 19:53	1

Lab Sample ID: MB 550-274401/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274760 — **Prep Batch: 274401**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND	E8	2.0	0.013	mg/L		05/17/22 14:16	05/19/22 16:00	1

Lab Sample ID: LCS 550-274401/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274623 — **Prep Batch: 274401**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron			1.00	0.956		mg/L		96	85 - 115		

Lab Sample ID: LCS 550-274401/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274760 — **Prep Batch: 274401**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Calcium			21.0	19.9		mg/L		95	85 - 115		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-274401/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274623 — **Prep Batch: 274401**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron			1.00	0.977		mg/L		98	85 - 115	2	20

Lab Sample ID: LCSD 550-274401/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274760 — **Prep Batch: 274401**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium			21.0	20.3		mg/L		97	85 - 115	2	20

Lab Sample ID: 550-184147-3 MS — **Client Sample ID: CH-CCR-M60-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274623 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron	0.50		1.00	1.51		mg/L		101	70 - 130		

Lab Sample ID: 550-184147-3 MS — **Client Sample ID: CH-CCR-M60-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274760 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Calcium	87		21.0	103	M3	mg/L		77	70 - 130		

Lab Sample ID: 550-184147-3 MSD — **Client Sample ID: CH-CCR-M60-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274623 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.50		1.00	1.49		mg/L		98	70 - 130	2	20

Lab Sample ID: 550-184147-3 MSD — **Client Sample ID: CH-CCR-M60-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274760 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	87		21.0	104	M3	mg/L		85	70 - 130	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-274409/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274409

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			05/17/22 14:39	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 550-274409/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274409

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	990		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-274409/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274409

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110	2	10

Lab Sample ID: 550-184147-1 DU — **Client Sample ID: CH-CCR-M54-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274409

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3100	D2	3260	D2	mg/L		6	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-274862/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274862

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-274862/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274862

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	6.9		SU		99.1	98.5 - 101.5

Lab Sample ID: LCSSRM 550-274862/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274862

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.4	98.5 - 101.5

Lab Sample ID: 550-183967-D-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274862

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.8	H5	6.8	H5	SU		0.3	5
Temperature	13.3	H5	12.6	H5	Degrees C		5	

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-184147-5 DU
Matrix: Water
Analysis Batch: 274862

Client Sample ID: CH-CCR-FD01-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6	H5		7.7	H5	SU				0.7	5
Temperature	13.9	H5		12.2	H5	Degrees C				13	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

HPLC/IC

Analysis Batch: 274719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184147-1	CH-CCR-M54-0522	Total/NA	Water	300.0	
550-184147-1	CH-CCR-M54-0522	Total/NA	Water	300.0	
550-184147-2	CH-CCR-M59-0522	Total/NA	Water	300.0	
550-184147-2	CH-CCR-M59-0522	Total/NA	Water	300.0	
550-184147-3	CH-CCR-M60-0522	Total/NA	Water	300.0	
550-184147-3	CH-CCR-M60-0522	Total/NA	Water	300.0	
550-184147-4	CH-CCR-M61-0522	Total/NA	Water	300.0	
550-184147-4	CH-CCR-M61-0522	Total/NA	Water	300.0	
550-184147-5	CH-CCR-FD01-0522	Total/NA	Water	300.0	
550-184147-5	CH-CCR-FD01-0522	Total/NA	Water	300.0	
MB 550-274719/1041	Method Blank	Total/NA	Water	300.0	
LCS 550-274719/42	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274719/43	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184147-3 MS	CH-CCR-M60-0522	Total/NA	Water	300.0	
550-184147-3 MS	CH-CCR-M60-0522	Total/NA	Water	300.0	
550-184147-3 MSD	CH-CCR-M60-0522	Total/NA	Water	300.0	
550-184147-3 MSD	CH-CCR-M60-0522	Total/NA	Water	300.0	
550-184150-A-23 MS ^2	Matrix Spike	Total/NA	Water	300.0	
550-184150-A-23 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-184150-A-23 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-184150-A-23 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 274836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184147-1	CH-CCR-M54-0522	Total/NA	Water	300.0	
550-184147-2	CH-CCR-M59-0522	Total/NA	Water	300.0	
550-184147-3	CH-CCR-M60-0522	Total/NA	Water	300.0	
550-184147-4	CH-CCR-M61-0522	Total/NA	Water	300.0	
550-184147-5	CH-CCR-FD01-0522	Total/NA	Water	300.0	
MB 550-274836/2	Method Blank	Total/NA	Water	300.0	
LCS 550-274836/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274836/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184147-3 MS	CH-CCR-M60-0522	Total/NA	Water	300.0	
550-184147-3 MSD	CH-CCR-M60-0522	Total/NA	Water	300.0	

Metals

Prep Batch: 274401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184147-1	CH-CCR-M54-0522	Total/NA	Water	200.7	
550-184147-2	CH-CCR-M59-0522	Total/NA	Water	200.7	
550-184147-3	CH-CCR-M60-0522	Total/NA	Water	200.7	
550-184147-4	CH-CCR-M61-0522	Total/NA	Water	200.7	
550-184147-5	CH-CCR-FD01-0522	Total/NA	Water	200.7	
MB 550-274401/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-274401/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-274401/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184147-3 MS	CH-CCR-M60-0522	Total/NA	Water	200.7	
550-184147-3 MSD	CH-CCR-M60-0522	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Metals

Analysis Batch: 274623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184147-1	CH-CCR-M54-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-2	CH-CCR-M59-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-3	CH-CCR-M60-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-4	CH-CCR-M61-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-5	CH-CCR-FD01-0522	Total/NA	Water	200.7 Rev 4.4	274401
MB 550-274401/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	274401
LCS 550-274401/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	274401
LCSD 550-274401/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-3 MS	CH-CCR-M60-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-3 MSD	CH-CCR-M60-0522	Total/NA	Water	200.7 Rev 4.4	274401

Analysis Batch: 274760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184147-1	CH-CCR-M54-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-2	CH-CCR-M59-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-3	CH-CCR-M60-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-4	CH-CCR-M61-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-5	CH-CCR-FD01-0522	Total/NA	Water	200.7 Rev 4.4	274401
MB 550-274401/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	274401
LCS 550-274401/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	274401
LCSD 550-274401/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-3 MS	CH-CCR-M60-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-3 MSD	CH-CCR-M60-0522	Total/NA	Water	200.7 Rev 4.4	274401

General Chemistry

Analysis Batch: 274409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184147-1	CH-CCR-M54-0522	Total/NA	Water	SM 2540C	
550-184147-2	CH-CCR-M59-0522	Total/NA	Water	SM 2540C	
550-184147-3	CH-CCR-M60-0522	Total/NA	Water	SM 2540C	
550-184147-4	CH-CCR-M61-0522	Total/NA	Water	SM 2540C	
550-184147-5	CH-CCR-FD01-0522	Total/NA	Water	SM 2540C	
MB 550-274409/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-274409/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-274409/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184147-1 DU	CH-CCR-M54-0522	Total/NA	Water	SM 2540C	

Analysis Batch: 274862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184147-1	CH-CCR-M54-0522	Total/NA	Water	SM 4500 H+ B	
550-184147-2	CH-CCR-M59-0522	Total/NA	Water	SM 4500 H+ B	
550-184147-3	CH-CCR-M60-0522	Total/NA	Water	SM 4500 H+ B	
550-184147-4	CH-CCR-M61-0522	Total/NA	Water	SM 4500 H+ B	
550-184147-5	CH-CCR-FD01-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-274862/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-274862/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-274862/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-183967-D-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-184147-5 DU	CH-CCR-FD01-0522	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Client Sample ID: CH-CCR-M54-0522

Lab Sample ID: 550-184147-1
Date Collected: 05/13/22 09:13
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274719	05/20/22 00:30	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274719	05/20/22 02:02	AS1	TAL PHX
Total/NA	Analysis	300.0		50	274836	05/20/22 13:20	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:19	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:10	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	274409		CHS	TAL PHX
					(Start)	05/17/22 14:39		
					(End)	05/18/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-M59-0522

Lab Sample ID: 550-184147-2
Date Collected: 05/13/22 11:13
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274719	05/20/22 00:49	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274719	05/20/22 02:21	AS1	TAL PHX
Total/NA	Analysis	300.0		50	274836	05/20/22 13:38	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:21	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:12	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	274409		CHS	TAL PHX
					(Start)	05/17/22 14:39		
					(End)	05/18/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-M60-0522

Lab Sample ID: 550-184147-3
Date Collected: 05/13/22 08:13
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274719	05/19/22 23:35	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274719	05/20/22 01:07	AS1	TAL PHX
Total/NA	Analysis	300.0		50	274836	05/20/22 12:25	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:16	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:07	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	274409		CHS	TAL PHX
					(Start)	05/17/22 14:39		
					(End)	05/18/22 13:10		

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Client Sample ID: CH-CCR-M60-0522

Lab Sample ID: 550-184147-3
Date Collected: 05/13/22 08:13
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-M61-0522

Lab Sample ID: 550-184147-4
Date Collected: 05/13/22 10:18
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274719	05/20/22 04:29	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274719	05/20/22 06:01	AS1	TAL PHX
Total/NA	Analysis	300.0		50	274836	05/20/22 13:57	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:24	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:14	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	274409		CHS	TAL PHX
					(Start)	05/17/22 14:39		
					(End)	05/18/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-FD01-0522

Lab Sample ID: 550-184147-5
Date Collected: 05/13/22 08:13
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274719	05/20/22 04:48	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274719	05/20/22 06:20	AS1	TAL PHX
Total/NA	Analysis	300.0		50	274836	05/20/22 14:15	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:26	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:17	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	274409		CHS	TAL PHX
					(Start)	05/17/22 14:39		
					(End)	05/18/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Laboratory References:

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Method Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-184147-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

184147

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5/24/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAM)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca)	SM 4500-HB (pH)	SM 2540C (TDS)		Sample Specific Notes:
CH-CCR-M54-0522	5/13/22	9:13	G	W	2	N		X	X	X	X	-01	Low Flow
CH-CCR-M59-0522	5/13/2022	11:13	G	W	2	N		X	X	X	X	-02	"
CH-CCR-M60-0522	5/13/2022	08:13	G	W	2	N		X	X	X	X	-03	"
CH-CCR-M61-0522	5/13/2022	10:18	G	W	2	N		X	X	X	X	-04	"
CH-CCR-FD01-0522	5/13/22	08:13	G	W	2	N	N	X	X	X	X	-05	"
CH-CCR-M60-0522-MS	5/13/22	08:13	G	W	2	N	N	X	X	X	X	-03	Low Flow, MS
CH-CCR-M60-0522-SD	5/13/22	08:13	G	W	2	N	N	X	X	X	X	-03	Low Flow, MSD
								1	4	1	1		

550-184147 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.1°C, 0.1°C ice chs

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184147-1

Login Number: 184147
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184150-1
Client Project/Site: CCR Groundwater Monitoring
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/1/2022 10:55:56 AM

Rachel Sester, Project Manager I
(602)659-7615
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LINKS
Review your project results through my EOL
Have a Question? Ask The Expert
Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184150-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184150-1

Revision
This report was revised on 6/1/22 to make the sampling dates and times for the following samples agree with the COC: 550-184150-9, 550-184150-10, 550-184150-11, 550-184150-12, 550-184150-15, and 550-184150-16. This final report replaces the report that was generated on 5/31/22 at 5:23 PM.

Comments
No additional comments.

Receipt
The samples were received on 5/13/2022 4:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.1º C, 0.1º C, 0.4º C and 0.7º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-274622 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-274623 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: CH-CCR-M55A-0522 (550-184150-1), CH-CCR-M71A-0522 (550-184150-3) and CH-CCR-W307R-0522 (550-184150-23). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: CH-CCR-M72M-0522 (550-184150-5). Elevated reporting limits (RLs) are provided.

Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-275230 contained Selenium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The following sample was diluted due to the nature of the sample matrix: CH-CCR-M72M-0522 (550-184150-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-274367 were outside control limits for DOC. Sample matrix interference and/or non-homogeneity were suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184150-1	CH-CCR-M55A-0522	Water	05/12/22 12:00	05/13/22 16:15
550-184150-2	CH-CCR-M55A-0522	Water	05/12/22 12:00	05/13/22 16:15
550-184150-3	CH-CCR-M71A-0522	Water	05/10/22 15:55	05/13/22 16:15
550-184150-4	CH-CCR-M71A-0522	Water	05/10/22 15:55	05/13/22 16:15
550-184150-5	CH-CCR-M72M-0522	Water	05/10/22 14:35	05/13/22 16:15
550-184150-6	CH-CCR-M72M-0522	Water	05/10/22 14:35	05/13/22 16:15
550-184150-7	CH-CCR-M73A-0522	Water	05/11/22 09:11	05/13/22 16:15
550-184150-8	CH-CCR-M73A-0522	Water	05/11/22 09:11	05/13/22 16:15
550-184150-9	CH-CCR-M74M-0522	Water	05/11/22 10:15	05/13/22 16:15
550-184150-10	CH-CCR-M74M-0522	Water	05/11/22 10:15	05/13/22 16:15
550-184150-11	CH-CCR-M78A-0522	Water	05/11/22 14:05	05/13/22 16:15
550-184150-12	CH-CCR-M78A-0522	Water	05/11/22 14:05	05/13/22 16:15
550-184150-13	CH-CCR-M79A-0522	Water	05/12/22 14:40	05/13/22 16:15
550-184150-14	CH-CCR-M79A-0522	Water	05/12/22 14:40	05/13/22 16:15
550-184150-15	CH-CCR-FD03-0522	Water	05/12/22 14:40	05/13/22 16:15
550-184150-16	CH-CCR-FD03-0522	Water	05/12/22 14:40	05/13/22 16:15
550-184150-17	CH-CCR-W302-0522	Water	05/11/22 14:55	05/13/22 16:15
550-184150-18	CH-CCR-W302-0522	Water	05/11/22 14:55	05/13/22 16:15
550-184150-19	CH-CCR-W304-0522	Water	05/11/22 16:00	05/13/22 16:15
550-184150-20	CH-CCR-W304-0522	Water	05/11/22 16:00	05/13/22 16:15
550-184150-21	CH-CCR-W305-0522	Water	05/12/22 15:45	05/13/22 16:15
550-184150-22	CH-CCR-W305-0522	Water	05/12/22 15:45	05/13/22 16:15
550-184150-23	CH-CCR-W307R-0522	Water	05/12/22 09:35	05/13/22 16:15
550-184150-24	CH-CCR-W307R-0522	Water	05/12/22 09:35	05/13/22 16:15
550-184150-25	CH-CCR-W308-0522	Water	05/12/22 11:11	05/13/22 16:15
550-184150-26	CH-CCR-W308-0522	Water	05/12/22 11:11	05/13/22 16:15
550-184150-27	CH-CCR-W309-0522	Water	05/12/22 13:03	05/13/22 16:15
550-184150-28	CH-CCR-W309-0522	Water	05/12/22 13:03	05/13/22 16:15
550-184150-29	CH-CCR-W314-0522	Water	05/11/22 11:55	05/13/22 16:15
550-184150-30	CH-CCR-W314-0522	Water	05/11/22 11:55	05/13/22 16:15
550-184150-31	CH-CCR-FD04-0522	Water	05/12/22 09:35	05/13/22 16:15
550-184150-32	CH-CCR-FD04-0522	Water	05/12/22 09:35	05/13/22 16:15

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M55A-0522 — Lab Sample ID: 550-184150-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.61	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.87	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.47		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.42		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.058	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3000		2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00023	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0018		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.013		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000057	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0064		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00018	E4	0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lithium	0.31		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0039		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.17		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00018		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	10000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M55A-0522 — Lab Sample ID: 550-184150-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.044	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0011		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00017	E4	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	3.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M71A-0522 — Lab Sample ID: 550-184150-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7900	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	7000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.6		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	660		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.041	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	14		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500		2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00015	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0013		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00023		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M71A-0522 (Continued) — Lab Sample ID: 550-184150-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0014		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.016		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lithium	0.13		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.032		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0018		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000083	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.40		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	85		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	85		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7700	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M71A-0522 — Lab Sample ID: 550-184150-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.099	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	5.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00069		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.016		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M72M-0522 — Lab Sample ID: 550-184150-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	36000	D2	2000	520	mg/L	1000		300.0	Total/NA
Fluoride	1.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3500	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	4.6		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.47	D1	0.10	0.0051	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	8200	D2	20	0.13	mg/L	10		200.7 Rev 4.4	Total/NA
Iron	0.15	D1 E4	0.20	0.020	mg/L	2		200.7 Rev 4.4	Total/NA
Magnesium	1300	D1	4.0	0.089	mg/L	2		200.7 Rev 4.4	Total/NA
Manganese	6.0	D1	0.020	0.00038	mg/L	2		200.7 Rev 4.4	Total/NA
Potassium	160	D1	1.0	0.34	mg/L	2		200.7 Rev 4.4	Total/NA
Sodium	13000	D2	10	0.61	mg/L	20		200.7 Rev 4.4	Total/NA
Antimony	0.00067	D1 E4	0.010	0.00043	mg/L	10		200.8 LL	Total/NA
Arsenic	0.015	D1	0.0050	0.0025	mg/L	10		200.8 LL	Total/NA
Barium	0.20	D1	0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Cadmium	0.00041	D1 E4	0.0010	0.00023	mg/L	10		200.8 LL	Total/NA
Cobalt	0.0084	D1	0.0050	0.00063	mg/L	10		200.8 LL	Total/NA
Lithium	3.1	D1	0.10	0.10	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.026	D1	0.0050	0.0020	mg/L	10		200.8 LL	Total/NA
Selenium	0.015	D1	0.0050	0.00074	mg/L	10		200.8 LL	Total/NA
Thallium	0.0016	D1	0.0010	0.00013	mg/L	10		200.8 LL	Total/NA
Ammonia	1.4		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	42		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	42		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	58000	D2	1000	1000	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M72M-0522 (Continued) — Lab Sample ID: 550-184150-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Temperature	11.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M72M-0522 — Lab Sample ID: 550-184150-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.17	E4	0.20	0.020	mg/L	2		200.7 Rev 4.4	Dissolved
Manganese	6.1		0.020	0.00038	mg/L	2		200.7 Rev 4.4	Dissolved
Arsenic	0.015	D1	0.0050	0.0025	mg/L	10		200.8 LL	Dissolved
Cobalt	0.0081	D1	0.0050	0.00063	mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M73A-0522 — Lab Sample ID: 550-184150-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	4.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.32	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.25		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	5.3		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	610		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.43		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	270		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.60		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000097	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0017		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000039	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.070		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.012		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00078		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Lithium	0.16		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.033		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0019		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000028	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M73A-0522 — Lab Sample ID: 550-184150-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.25		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.56		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00078		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.011		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M73A-0522 (Continued) — Lab Sample ID: 550-184150-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M74M-0522 — Lab Sample ID: 550-184150-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.2	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.22		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.0		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.21		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	140		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.087		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	14		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	D2	1.0	0.061	mg/L	2		200.7 Rev 4.4	Total/NA
Antimony	0.000074	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0014		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0091		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00027		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0013		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.017		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0011		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Lithium	0.16		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.044		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0017		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000085	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	85		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	85		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M74M-0522 — Lab Sample ID: 550-184150-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.055	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.086		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00073		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.016		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M78A-0522 — Lab Sample ID: 550-184150-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.54	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2400	D2	400	85	mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M78A-0522 (Continued) — Lab Sample ID: 550-184150-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.23		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.42		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	740		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.20		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	140		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	8.7		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000063	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0019		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000047	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0018		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lithium	0.15		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0070		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00077		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000085	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.35		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8100	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M78A-0522 — Lab Sample ID: 550-184150-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.21		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	5.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0013		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0017		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.71		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.71		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.71		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M79A-0522 — Lab Sample ID: 550-184150-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.69	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	3.1	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.16		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.35		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	760		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.061	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	95		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	9.6		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000048	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0010		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M79A-0522 (Continued) — Lab Sample ID: 550-184150-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000058	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0086		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lithium	0.092		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.013		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0012		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000034	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	130		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M79A-0522 — Lab Sample ID: 550-184150-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.052	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00032	E4	0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0070		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.67		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.67		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.67		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD03-0522 — Lab Sample ID: 550-184150-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.67	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	2.7	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.15		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.35		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	780		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.047	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	93		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	9.4		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000063	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.00098		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000058	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.00063	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0079		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lithium	0.091		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.014		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00093		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000020	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	130		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7300	D2	100	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-FD03-0522 (Continued) — Lab Sample ID: 550-184150-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD03-0522 — Lab Sample ID: 550-184150-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.050	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00040	E4	0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0073		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.81		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.82		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.81		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W302-0522 — Lab Sample ID: 550-184150-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.90	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	3.7	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.39		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.62		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	740		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.13		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.18		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.0		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000072	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0015		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.013		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.026		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0068		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lithium	0.24		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0099		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00084		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	140		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	140		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8700	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W302-0522 — Lab Sample ID: 550-184150-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.21		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.17		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0010		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0066		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.88		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.91		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W302-0522 (Continued) — Lab Sample ID: 550-184150-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon - Quad	0.88		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W304-0522 — Lab Sample ID: 550-184150-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.49	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	4.0	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.38		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.41		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	660		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.25		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	100		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	4.8		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.00098		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0087		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000053	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.018		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0090		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00026	E4	0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Lithium	0.33		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0062		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00091		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	120		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W304-0522 — Lab Sample ID: 550-184150-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.25		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00084		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0088		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.76		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.76		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.76		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W305-0522 — Lab Sample ID: 550-184150-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.53	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	3.1	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.22		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.40		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W305-0522 (Continued) — Lab Sample ID: 550-184150-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.36		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	120		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	6.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	1.3		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000055	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0014		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000098	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0033		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.016		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0019		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Lithium	0.18		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.021		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0014		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Ammonia	0.17		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	110		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W305-0522 — Lab Sample ID: 550-184150-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.33		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	6.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0014		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.017		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W307R-0522 — Lab Sample ID: 550-184150-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.55	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.28		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.8		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	700	M3	2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.12		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160	M3	2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.3		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	4.4		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900	M3	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00013	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0015		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00032		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W307R-0522 (Continued) — Lab Sample ID: 550-184150-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0020		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.060		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00058		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Lithium	0.18		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.021		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0014		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00055		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.045	E4 M2	0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8600	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W307R-0522 — Lab Sample ID: 550-184150-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.13		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.3		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00093		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.057		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.1	M2 R13	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1	M2 R13	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1	M2 R13	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W308-0522 — Lab Sample ID: 550-184150-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.40	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	3.9	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	4100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.41		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.42		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	840		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.088	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	130		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.11		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.2		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00012	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0015		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0073		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000057	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.015		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00094		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lithium	0.34		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0036		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0043		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	190		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	190		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9900	D2	100	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W308-0522 (Continued) — Lab Sample ID: 550-184150-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W308-0522 — Lab Sample ID: 550-184150-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.033	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.11		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0011		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00086		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W309-0522 — Lab Sample ID: 550-184150-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	5.9	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	4700	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.34		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.46		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	450		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.068	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	91		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.44		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	4.9		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000073	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0011		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0069		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000071	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.020		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00040	E4	0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lithium	0.27		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0093		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.22		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000037	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	170		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6400	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W309-0522 — Lab Sample ID: 550-184150-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.052	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.43		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00095		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00031	E4	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W309-0522 (Continued) — Lab Sample ID: 550-184150-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon	0.76		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.78		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.76		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W314-0522 — Lab Sample ID: 550-184150-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.0	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	3.9	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2500	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.30		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.4		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.097		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000059	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0014		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00041		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0063		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.032		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00065		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Lithium	0.24		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.037		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0010		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	110		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W314-0522 — Lab Sample ID: 550-184150-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.064	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.063		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0014		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.033		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD04-0522 — Lab Sample ID: 550-184150-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.47	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	3.3	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.26		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.9		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-FD04-0522 (Continued) — Lab Sample ID: 550-184150-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	720		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.3		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	4.2		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000077	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0018		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00031		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0022		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.060		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00075		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Lithium	0.20		0.010	0.010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.021		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0016		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD04-0522 — Lab Sample ID: 550-184150-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.12		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.4		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0018		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.061		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M55A-0522

Lab Sample ID: 550-184150-1
Date Collected: 05/12/22 12:00
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4400	D2	400	100	mg/L			05/20/22 08:29	200
Fluoride	0.61	D1 E4	0.80	0.095	mg/L			05/20/22 07:34	2
Nitrate Nitrite as N	0.87	D1	0.25	0.11	mg/L			05/21/22 20:44	5
Sulfate	3400	D2	400	85	mg/L			05/20/22 08:29	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 13:41	05/18/22 19:39	1
Lithium	0.47		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 18:14	1
Boron	0.42		0.050	0.0025	mg/L		05/17/22 13:41	05/18/22 19:39	1
Calcium	730		2.0	0.013	mg/L		05/17/22 13:41	05/19/22 15:25	1
Iron	0.058	E4	0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:39	1
Magnesium	160		2.0	0.044	mg/L		05/17/22 13:41	05/18/22 19:39	1
Manganese	ND	E8	0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:39	1
Potassium	ND	E8	0.50	0.17	mg/L		05/17/22 13:41	05/18/22 19:39	1
Sodium	3000		2.5	0.15	mg/L		05/17/22 13:41	05/19/22 15:14	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00023	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:12	1
Arsenic	0.0018		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:12	1
Barium	0.013		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 13:34	1
Cadmium	0.000057	E4	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:12	1
Chromium	0.0064		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:12	1
Cobalt	0.00018	E4	0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:12	1
Lead	ND	E8	0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:12	1
Lithium	0.31		0.010	0.010	mg/L		05/17/22 08:03	05/19/22 13:34	1
Molybdenum	0.0039		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:12	1
Selenium	0.17		0.00050	0.000074	mg/L		05/17/22 08:03	05/25/22 16:55	1
Thallium	0.00018		0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 13:34	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 18:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 13:39	1
Total Dissolved Solids	10000	D2	200	200	mg/L			05/16/22 14:04	1
pH	7.6	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	11.6	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-M55A-0522

Lab Sample ID: 550-184150-2
Date Collected: 05/12/22 12:00
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.044	E4	0.10	0.010	mg/L		05/17/22 13:41	05/18/22 18:57	1
Manganese	ND	E8	0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 18:57	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M55A-0522

Lab Sample ID: 550-184150-2
Date Collected: 05/12/22 12:00
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0011		0.00050	0.00025	mg/L		05/18/22 08:01	05/19/22 15:06	1
Cobalt	0.00017	E4	0.00050	0.000063	mg/L		05/18/22 08:01	05/19/22 15:06	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.3		0.50	0.26	mg/L			05/14/22 17:09	1
Dissolved Organic Carbon - Duplicate	3.3		0.50	0.26	mg/L			05/14/22 17:09	1
Dissolved Organic Carbon - Quad	3.3		0.50	0.26	mg/L			05/14/22 17:09	1

Client Sample ID: CH-CCR-M71A-0522

Lab Sample ID: 550-184150-3
Date Collected: 05/10/22 15:55
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7900	D2	400	100	mg/L			05/19/22 22:02	200
Fluoride	3.3	D1	0.80	0.095	mg/L			05/19/22 21:07	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/21/22 21:12	5
Sulfate	7000	D2	400	85	mg/L			05/19/22 22:02	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 13:42	05/18/22 19:41	1
Lithium	0.20		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 18:19	1
Boron	3.6		0.050	0.0025	mg/L		05/17/22 13:42	05/18/22 19:41	1
Calcium	660		2.0	0.013	mg/L		05/17/22 13:42	05/19/22 15:28	1
Iron	0.041	E4	0.10	0.010	mg/L		05/17/22 13:42	05/18/22 19:41	1
Magnesium	240		2.0	0.044	mg/L		05/17/22 13:42	05/18/22 19:41	1
Manganese	5.1		0.010	0.00019	mg/L		05/17/22 13:42	05/18/22 19:41	1
Potassium	14		0.50	0.17	mg/L		05/17/22 13:42	05/18/22 19:41	1
Sodium	1500		2.5	0.15	mg/L		05/17/22 13:42	05/19/22 15:16	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00015	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:14	1
Arsenic	0.0013		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:14	1
Barium	0.011		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 13:36	1
Cadmium	0.00023		0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:14	1
Chromium	0.0014		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:14	1
Cobalt	0.016		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:14	1
Lead	ND	E8	0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:14	1
Lithium	0.13		0.010	0.010	mg/L		05/17/22 08:03	05/19/22 13:36	1
Molybdenum	0.032		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:14	1
Selenium	0.0018		0.00050	0.000074	mg/L		05/17/22 08:03	05/25/22 16:57	1
Thallium	0.000083	E4	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 13:36	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 18:56	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M71A-0522

Lab Sample ID: 550-184150-3
Date Collected: 05/10/22 15:55
Matrix: Water
Date Received: 05/13/22 16:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.40		0.050	0.039	mg/L			05/16/22 13:43	1
Alkalinity as CaCO3	85		6.0	6.0	mg/L			05/18/22 12:23	1
Bicarbonate Alkalinity as CaCO3	85		6.0	6.0	mg/L			05/18/22 12:23	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:23	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 12:23	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:23	1
Total Dissolved Solids	7700	D2	100	100	mg/L			05/16/22 13:10	1
pH	7.7	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	12.0	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-M71A-0522

Lab Sample ID: 550-184150-4
Date Collected: 05/10/22 15:55
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.099	E4	0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:00	1
Manganese	5.2		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:00	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00069		0.00050	0.00025	mg/L		05/18/22 08:01	05/19/22 15:08	1
Cobalt	0.016		0.00050	0.000063	mg/L		05/18/22 08:01	05/19/22 15:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L			05/14/22 17:22	1
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L			05/14/22 17:22	1
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L			05/14/22 17:22	1

Client Sample ID: CH-CCR-M72M-0522

Lab Sample ID: 550-184150-5
Date Collected: 05/10/22 14:35
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36000	D2	2000	520	mg/L			05/20/22 14:34	1000
Fluoride	1.3	D1	0.80	0.095	mg/L			05/19/22 21:35	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/21/22 23:04	5
Sulfate	3500	D2	400	85	mg/L			05/19/22 22:30	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	D1 E8	0.0020	0.00013	mg/L		05/17/22 14:16	05/19/22 17:19	2
Lithium	4.6		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 18:24	1
Boron	0.47	D1	0.10	0.0051	mg/L		05/17/22 14:16	05/19/22 17:19	2
Calcium	8200	D2	20	0.13	mg/L		05/17/22 14:16	05/19/22 16:14	10
Iron	0.15	D1 E4	0.20	0.020	mg/L		05/17/22 14:16	05/19/22 17:19	2
Magnesium	1300	D1	4.0	0.089	mg/L		05/17/22 14:16	05/19/22 17:19	2
Manganese	6.0	D1	0.020	0.00038	mg/L		05/17/22 14:16	05/19/22 17:19	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M72M-0522

Lab Sample ID: 550-184150-5
Matrix: Water
Date Collected: 05/10/22 14:35
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	160	D1	1.0	0.34	mg/L		05/17/22 14:16	05/19/22 17:19	2
Sodium	13000	D2	10	0.61	mg/L		05/17/22 14:16	05/24/22 15:03	20

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00067	D1 E4	0.010	0.00043	mg/L		05/17/22 08:03	05/19/22 13:38	10
Arsenic	0.015	D1	0.0050	0.0025	mg/L		05/17/22 08:03	05/19/22 13:38	10
Barium	0.20	D1	0.0050	0.0026	mg/L		05/17/22 08:03	05/19/22 13:38	10
Cadmium	0.00041	D1 E4	0.0010	0.00023	mg/L		05/17/22 08:03	05/19/22 13:38	10
Chromium	ND	D1 E8	0.010	0.0043	mg/L		05/17/22 08:03	05/19/22 13:38	10
Cobalt	0.0084	D1	0.0050	0.00063	mg/L		05/17/22 08:03	05/19/22 13:38	10
Lead	ND	D1 E8	0.0050	0.0022	mg/L		05/17/22 08:03	05/19/22 13:38	10
Lithium	3.1	D1	0.10	0.10	mg/L		05/17/22 08:03	05/19/22 13:38	10
Molybdenum	0.026	D1	0.0050	0.0020	mg/L		05/17/22 08:03	05/19/22 13:38	10
Selenium	0.015	D1	0.0050	0.00074	mg/L		05/17/22 08:03	05/25/22 16:59	10
Thallium	0.0016	D1	0.0010	0.00013	mg/L		05/17/22 08:03	05/19/22 13:38	10

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 18:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.4		0.050	0.039	mg/L			05/16/22 13:45	1
Alkalinity as CaCO3	42		6.0	6.0	mg/L			05/18/22 12:30	1
Bicarbonate Alkalinity as CaCO3	42		6.0	6.0	mg/L			05/18/22 12:30	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:30	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 12:30	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:30	1
Total Dissolved Solids	58000	D2	1000	1000	mg/L			05/16/22 13:10	1
pH	7.1	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	11.9	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-M72M-0522

Lab Sample ID: 550-184150-6
Matrix: Water
Date Collected: 05/10/22 14:35
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.17	E4	0.20	0.020	mg/L		05/17/22 13:41	05/27/22 17:33	2
Manganese	6.1		0.020	0.00038	mg/L		05/17/22 13:41	05/27/22 17:33	2

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.015	D1	0.0050	0.0025	mg/L		05/18/22 08:01	05/27/22 13:25	10
Cobalt	0.0081	D1	0.0050	0.00063	mg/L		05/18/22 08:01	05/27/22 13:25	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0		0.50	0.26	mg/L			05/14/22 17:34	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M72M-0522

Lab Sample ID: 550-184150-6
Date Collected: 05/10/22 14:35
Matrix: Water
Date Received: 05/13/22 16:15

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L			05/14/22 17:34	1
Dissolved Organic Carbon - Quad	1.0		0.50	0.26	mg/L			05/14/22 17:34	1

Client Sample ID: CH-CCR-M73A-0522

Lab Sample ID: 550-184150-7
Date Collected: 05/11/22 09:11
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	100	mg/L			05/20/22 02:42	200
Fluoride	4.1	D1	0.80	0.095	mg/L			05/20/22 00:50	2
Nitrate Nitrite as N	0.32	D1	0.25	0.11	mg/L			05/21/22 23:32	5
Sulfate	3600	D2	400	85	mg/L			05/20/22 02:42	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 20:32	1
Lithium	0.25		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 18:29	1
Boron	5.3		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:32	1
Calcium	610		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:21	1
Iron	0.43		0.10	0.010	mg/L		05/17/22 14:16	05/18/22 20:32	1
Magnesium	270		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 20:32	1
Manganese	0.60		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 20:32	1
Potassium	15		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 20:32	1
Sodium	1900	D2	2.5	0.15	mg/L		05/17/22 14:16	05/19/22 16:16	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000097	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:18	1
Arsenic	0.0017		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:18	1
Barium	0.011		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 13:41	1
Cadmium	0.000039	E4	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:18	1
Chromium	0.070		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:18	1
Cobalt	0.012		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:18	1
Lead	0.00078		0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:18	1
Lithium	0.16		0.010	0.010	mg/L		05/17/22 08:03	05/19/22 13:41	1
Molybdenum	0.033		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:18	1
Selenium	0.0019		0.00050	0.000074	mg/L		05/17/22 08:03	05/25/22 17:01	1
Thallium	0.000028	E4	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 13:41	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 13:46	1
Alkalinity as CaCO3	150		6.0	6.0	mg/L			05/18/22 12:37	1
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L			05/18/22 12:37	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:37	1

Client Sample ID: CH-CCR-M73A-0522

Lab Sample ID: 550-184150-7
Date Collected: 05/11/22 09:11
Matrix: Water
Date Received: 05/13/22 16:15

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 12:37	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:37	1
Total Dissolved Solids	**9300**	**D2**	100	100	mg/L			05/16/22 13:10	1
pH	**7.5**	**H5**	1.7	1.7	SU			05/21/22 13:01	1
Temperature	**12.7**	**H5**	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-M73A-0522

Lab Sample ID: 550-184150-8
Date Collected: 05/11/22 09:11
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.25**		0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:05	1
Manganese	**0.56**		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:05	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00078**		0.00050	0.00025	mg/L		05/18/22 08:01	05/19/22 15:12	1
Cobalt	**0.011**		0.00050	0.000063	mg/L		05/18/22 08:01	05/19/22 15:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.6**		0.50	0.26	mg/L			05/14/22 17:45	1
Dissolved Organic Carbon - Duplicate	**1.6**		0.50	0.26	mg/L			05/14/22 17:45	1
Dissolved Organic Carbon - Quad	**1.6**		0.50	0.26	mg/L			05/14/22 17:45	1

Client Sample ID: CH-CCR-M74M-0522

Lab Sample ID: 550-184150-9
Date Collected: 05/11/22 10:15
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2100**	**D2**	400	100	mg/L			05/20/22 03:10	200
Fluoride	**1.2**	**D1**	0.80	0.095	mg/L			05/20/22 01:18	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/22/22 00:00	5
Sulfate	**2600**	**D2**	400	85	mg/L			05/20/22 03:10	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 20:34	1
Lithium	**0.22**		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 18:33	1
Boron	**2.0**		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:34	1
Calcium	**750**		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:23	1
Iron	**0.21**		0.10	0.010	mg/L		05/17/22 14:16	05/18/22 20:34	1
Magnesium	**140**		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 20:34	1
Manganese	**0.087**		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 20:34	1
Potassium	**14**		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 20:34	1
Sodium	**1500**	**D2**	1.0	0.061	mg/L		05/17/22 14:16	05/19/22 16:18	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M74M-0522

Lab Sample ID: 550-184150-9
Date Collected: 05/11/22 10:15
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000074	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:20	1
Arsenic	0.0014		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:20	1
Barium	0.0091		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 13:43	1
Cadmium	0.00027		0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:20	1
Chromium	0.0013		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:20	1
Cobalt	0.017		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:20	1
Lead	0.0011		0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:20	1
Lithium	0.16		0.010	0.010	mg/L		05/17/22 08:03	05/19/22 13:43	1
Molybdenum	0.044		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:20	1
Selenium	0.0017		0.00050	0.000074	mg/L		05/17/22 08:03	05/25/22 17:03	1
Thallium	0.000085	E4	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 13:43	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 13:48	1
Alkalinity as CaCO3	85		6.0	6.0	mg/L			05/18/22 12:44	1
Bicarbonate Alkalinity as CaCO3	85		6.0	6.0	mg/L			05/18/22 12:44	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:44	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 12:44	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:44	1
Total Dissolved Solids	7000	D2	100	100	mg/L			05/16/22 13:10	1
pH	7.7	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	12.1	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-M74M-0522

Lab Sample ID: 550-184150-10
Date Collected: 05/11/22 10:15
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.055	E4	0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:08	1
Manganese	0.086		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:08	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00073		0.00050	0.00025	mg/L		05/18/22 08:01	05/19/22 15:15	1
Cobalt	0.016		0.00050	0.000063	mg/L		05/18/22 08:01	05/19/22 15:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L			05/14/22 17:57	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			05/14/22 17:57	1
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L			05/14/22 17:57	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M78A-0522

Lab Sample ID: 550-184150-11

Date Collected: 05/11/22 14:05
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2800	D2	400	100	mg/L			05/20/22 03:38	200
Fluoride	0.54	D1 E4	0.80	0.095	mg/L			05/20/22 01:46	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/22/22 00:28	5
Sulfate	2400	D2	400	85	mg/L			05/20/22 03:38	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 20:37	1
Lithium	0.23		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 18:37	1
Boron	0.42		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:37	1
Calcium	740		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:26	1
Iron	0.20		0.10	0.010	mg/L		05/17/22 14:16	05/18/22 20:37	1
Magnesium	140		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 20:37	1
Manganese	5.5		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 20:37	1
Potassium	8.7		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 20:37	1
Sodium	1700	D2	2.5	0.15	mg/L		05/17/22 14:16	05/19/22 16:21	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000063	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:26	1
Arsenic	0.0019		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:26	1
Barium	0.012		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 13:49	1
Cadmium	0.000047	E4	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:26	1
Chromium	ND	E8	0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:26	1
Cobalt	0.0018		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:26	1
Lead	ND	E8	0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:26	1
Lithium	0.15		0.010	0.010	mg/L		05/17/22 08:03	05/19/22 13:49	1
Molybdenum	0.0070		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:26	1
Selenium	0.00077		0.00050	0.000074	mg/L		05/17/22 08:03	05/26/22 16:07	1
Thallium	0.000085	E4	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 13:49	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.35		0.050	0.039	mg/L			05/16/22 13:49	1
Alkalinity as CaCO3	150		6.0	6.0	mg/L			05/18/22 12:52	1
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L			05/18/22 12:52	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:52	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 12:52	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:52	1
Total Dissolved Solids	8100	D2	100	100	mg/L			05/16/22 13:10	1
pH	7.5	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	11.9	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M78A-0522

Lab Sample ID: 550-184150-12
Date Collected: 05/11/22 14:05
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.21		0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:10	1
Manganese	5.5		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:10	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0013		0.00050	0.00025	mg/L		05/18/22 08:01	05/19/22 15:17	1
Cobalt	0.0017		0.00050	0.000063	mg/L		05/18/22 08:01	05/19/22 15:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.71		0.50	0.26	mg/L			05/14/22 18:09	1
Dissolved Organic Carbon - Duplicate	0.71		0.50	0.26	mg/L			05/14/22 18:09	1
Dissolved Organic Carbon - Quad	0.71		0.50	0.26	mg/L			05/14/22 18:09	1

Client Sample ID: CH-CCR-M79A-0522

Lab Sample ID: 550-184150-13
Date Collected: 05/12/22 14:40
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	400	100	mg/L			05/20/22 04:06	200
Fluoride	0.69	D1 E4	0.80	0.095	mg/L			05/20/22 02:14	2
Nitrate Nitrite as N	3.1	D1	0.25	0.11	mg/L			05/23/22 20:59	5
Sulfate	2300	D2	400	85	mg/L			05/20/22 04:06	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 20:39	1
Lithium	0.16		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 18:42	1
Boron	0.35		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:39	1
Calcium	760		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:28	1
Iron	0.061	E4	0.10	0.010	mg/L		05/17/22 14:16	05/18/22 20:39	1
Magnesium	95		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 20:39	1
Manganese	3.9		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 20:39	1
Potassium	9.6		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 20:39	1
Sodium	1500	D2	2.5	0.15	mg/L		05/17/22 14:16	05/19/22 16:23	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000048	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:28	1
Arsenic	0.0010		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:28	1
Barium	0.011		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 13:51	1
Cadmium	0.000058	E4	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:28	1
Chromium	ND	E8	0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:28	1
Cobalt	0.0086		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:28	1
Lead	ND	E8	0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:28	1
Lithium	0.092		0.010	0.010	mg/L		05/17/22 08:03	05/19/22 13:51	1
Molybdenum	0.013		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:28	1
Selenium	0.0012		0.00050	0.000074	mg/L		05/17/22 08:03	05/26/22 16:09	1
Thallium	0.000034	E4	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 13:51	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M79A-0522

Lab Sample ID: 550-184150-13
Date Collected: 05/12/22 14:40
Matrix: Water
Date Received: 05/13/22 16:15

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 13:51	1
Alkalinity as CaCO3	**130**		6.0	6.0	mg/L			05/18/22 12:59	1
Bicarbonate Alkalinity as CaCO3	**130**		6.0	6.0	mg/L			05/18/22 12:59	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:59	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 12:59	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 12:59	1
Total Dissolved Solids	**7000**	**D2**	100	100	mg/L			05/16/22 14:04	1
pH	**7.6**	**H5**	1.7	1.7	SU			05/21/22 13:01	1
Temperature	**13.4**	**H5**	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-M79A-0522

Lab Sample ID: 550-184150-14
Date Collected: 05/12/22 14:40
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.052**	**E4**	0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:13	1
Manganese	**3.9**		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:13	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00032**	**E4**	0.00050	0.00025	mg/L		05/18/22 08:01	05/19/22 15:19	1
Cobalt	**0.0070**		0.00050	0.000063	mg/L		05/18/22 08:01	05/19/22 15:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.67**		0.50	0.26	mg/L			05/14/22 18:19	1
Dissolved Organic Carbon - Duplicate	**0.67**		0.50	0.26	mg/L			05/14/22 18:19	1
Dissolved Organic Carbon - Quad	**0.67**		0.50	0.26	mg/L			05/14/22 18:19	1

Client Sample ID: CH-CCR-FD03-0522

Lab Sample ID: 550-184150-15
Date Collected: 05/12/22 14:40
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2400**	**D2**	400	100	mg/L			05/20/22 06:53	200
Fluoride	**0.67**	**D1 E4**	0.80	0.095	mg/L			05/20/22 05:57	2
Nitrate Nitrite as N	**2.7**	**D1**	0.25	0.11	mg/L			05/23/22 21:27	5
Sulfate	**2400**	**D2**	400	85	mg/L			05/20/22 06:53	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 20:47	1
Lithium	**0.15**		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 19:03	1
Boron	**0.35**		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:47	1
Calcium	**780**		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:35	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-FD03-0522

Lab Sample ID: 550-184150-15

Date Collected: 05/12/22 14:40
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.047	E4	0.10	0.010	mg/L		05/17/22 14:16	05/19/22 17:35	1
Magnesium	93		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 20:47	1
Manganese	3.8		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 20:47	1
Potassium	9.4		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 20:47	1
Sodium	1500	D2	2.5	0.15	mg/L		05/17/22 14:16	05/19/22 16:30	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000063	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:30	1
Arsenic	0.00098		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:30	1
Barium	0.012		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 13:53	1
Cadmium	0.000058	E4	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:30	1
Chromium	0.00063	E4	0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:30	1
Cobalt	0.0079		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:30	1
Lead	ND	E8	0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:30	1
Lithium	0.091		0.010	0.010	mg/L		05/17/22 08:03	05/19/22 13:53	1
Molybdenum	0.014		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:30	1
Selenium	0.00093		0.00050	0.000074	mg/L		05/17/22 08:03	05/26/22 16:11	1
Thallium	0.000020	E4	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 13:53	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 13:52	1
Alkalinity as CaCO3	130		6.0	6.0	mg/L			05/18/22 14:01	1
Bicarbonate Alkalinity as CaCO3	130		6.0	6.0	mg/L			05/18/22 14:01	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:01	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 14:01	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:01	1
Total Dissolved Solids	7300	D2	100	100	mg/L			05/16/22 14:04	1
pH	7.6	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	12.6	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-FD03-0522

Lab Sample ID: 550-184150-16

Date Collected: 05/12/22 14:40
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	E4	0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:21	1
Manganese	3.9		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:21	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00040	E4	0.00050	0.00025	mg/L		05/18/22 08:01	05/19/22 15:21	1
Cobalt	0.0073		0.00050	0.000063	mg/L		05/18/22 08:01	05/19/22 15:21	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-FD03-0522

Lab Sample ID: 550-184150-16
Date Collected: 05/12/22 14:40
Matrix: Water
Date Received: 05/13/22 16:15

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.81		0.50	0.26	mg/L			05/14/22 18:30	1
Dissolved Organic Carbon - Duplicate	0.82		0.50	0.26	mg/L			05/14/22 18:30	1
Dissolved Organic Carbon - Quad	0.81		0.50	0.26	mg/L			05/14/22 18:30	1

Client Sample ID: CH-CCR-W302-0522

Lab Sample ID: 550-184150-17
Date Collected: 05/11/22 14:55
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3200	D2	400	100	mg/L			05/20/22 07:21	200
Fluoride	0.90	D1	0.80	0.095	mg/L			05/20/22 06:25	2
Nitrate Nitrite as N	3.7	D1	0.25	0.11	mg/L			05/23/22 21:55	5
Sulfate	2100	D2	400	85	mg/L			05/20/22 07:21	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 20:50	1
Lithium	0.39		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 19:08	1
Boron	0.62		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:50	1
Calcium	740		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:37	1
Iron	0.13		0.10	0.010	mg/L		05/17/22 14:16	05/19/22 17:37	1
Magnesium	160		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 20:50	1
Manganese	0.18		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 20:50	1
Potassium	5.0		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 20:50	1
Sodium	2000	D2	2.5	0.15	mg/L		05/17/22 14:16	05/19/22 16:33	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000072	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:33	1
Arsenic	0.0015		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:33	1
Barium	0.013		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 13:55	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:33	1
Chromium	0.026		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:33	1
Cobalt	0.0068		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:33	1
Lead	ND	E8	0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:33	1
Lithium	0.24		0.010	0.010	mg/L		05/17/22 08:03	05/19/22 13:55	1
Molybdenum	0.0099		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:33	1
Selenium	0.00084		0.00050	0.000074	mg/L		05/17/22 08:03	05/26/22 16:13	1
Thallium	ND	E8	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 13:55	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 13:54	1
Alkalinity as CaCO3	140		6.0	6.0	mg/L			05/18/22 13:38	1
Bicarbonate Alkalinity as CaCO3	140		6.0	6.0	mg/L			05/18/22 13:38	1

Client Sample ID: CH-CCR-W302-0522 — Lab Sample ID: 550-184150-17

Date Collected: 05/11/22 14:55
Date Received: 05/13/22 16:15
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 13:38	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 13:38	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 13:38	1
Total Dissolved Solids	**8700**	**D2**	100	100	mg/L			05/16/22 13:10	1
pH	**7.6**	**H5**	1.7	1.7	SU			05/21/22 13:01	1
Temperature	**13.3**	**H5**	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-W302-0522 — Lab Sample ID: 550-184150-18

Date Collected: 05/11/22 14:55
Date Received: 05/13/22 16:15
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.21**		0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:23	1
Manganese	**0.17**		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:23	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0010**		0.00050	0.00025	mg/L		05/18/22 08:01	05/19/22 15:23	1
Cobalt	**0.0066**		0.00050	0.000063	mg/L		05/18/22 08:01	05/19/22 15:23	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.88**		0.50	0.26	mg/L			05/14/22 18:42	1
Dissolved Organic Carbon - Duplicate	**0.91**		0.50	0.26	mg/L			05/14/22 18:42	1
Dissolved Organic Carbon - Quad	**0.88**		0.50	0.26	mg/L			05/14/22 18:42	1

Client Sample ID: CH-CCR-W304-0522 — Lab Sample ID: 550-184150-19

Date Collected: 05/11/22 16:00
Date Received: 05/13/22 16:15
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**	**D2**	400	100	mg/L			05/20/22 09:06	200
Fluoride	**0.49**	**D1 E4**	0.80	0.095	mg/L			05/20/22 08:10	2
Nitrate Nitrite as N	**4.0**	**D1**	0.25	0.11	mg/L			05/23/22 22:23	5
Sulfate	**2600**	**D2**	400	85	mg/L			05/20/22 09:06	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 20:52	1
Lithium	**0.38**		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 19:13	1
Boron	**0.41**		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:52	1
Calcium	**660**		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:40	1
Iron	**0.25**		0.10	0.010	mg/L		05/17/22 14:16	05/19/22 17:40	1
Magnesium	**100**		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 20:52	1
Manganese	**1.9**		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 20:52	1
Potassium	**4.8**		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 20:52	1
Sodium	**1900**	**D2**	2.5	0.15	mg/L		05/17/22 14:16	05/19/22 16:47	5

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W304-0522

Lab Sample ID: 550-184150-19
Date Collected: 05/11/22 16:00
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:35	1
Arsenic	**0.00098**		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:35	1
Barium	**0.0087**		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 14:01	1
Cadmium	**0.000053**	**E4**	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:35	1
Chromium	**0.018**		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:35	1
Cobalt	**0.0090**		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:35	1
Lead	**0.00026**	**E4**	0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:35	1
Lithium	**0.33**		0.010	0.010	mg/L		05/17/22 08:03	05/27/22 13:31	1
Molybdenum	**0.0062**		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:35	1
Selenium	**0.00091**		0.00050	0.000074	mg/L		05/17/22 08:03	05/26/22 16:15	1
Thallium	ND	E8	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 14:01	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 13:55	1
Alkalinity as CaCO3	**120**		6.0	6.0	mg/L			05/18/22 13:46	1
Bicarbonate Alkalinity as CaCO3	**120**		6.0	6.0	mg/L			05/18/22 13:46	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 13:46	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 13:46	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 13:46	1
Total Dissolved Solids	**7800**	**D2**	100	100	mg/L			05/16/22 13:10	1
pH	**7.6**	**H5**	1.7	1.7	SU			05/21/22 13:01	1
Temperature	**13.5**	**H5**	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-W304-0522

Lab Sample ID: 550-184150-20
Date Collected: 05/11/22 16:00
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.25**		0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:26	1
Manganese	**1.9**		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:26	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00084**		0.00050	0.00025	mg/L		05/18/22 08:01	05/26/22 16:32	1
Cobalt	**0.0088**		0.00050	0.000063	mg/L		05/18/22 08:01	05/25/22 17:39	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.76**		0.50	0.26	mg/L			05/14/22 19:14	1
Dissolved Organic Carbon - Duplicate	**0.76**		0.50	0.26	mg/L			05/14/22 19:14	1
Dissolved Organic Carbon - Quad	**0.76**		0.50	0.26	mg/L			05/14/22 19:14	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W305-0522

Lab Sample ID: 550-184150-21

Date Collected: 05/12/22 15:45
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	100	mg/L			05/20/22 04:34	200
Fluoride	0.53	D1 E4	0.80	0.095	mg/L			05/20/22 03:10	2
Nitrate Nitrite as N	3.1	D1	0.25	0.11	mg/L			05/23/22 22:51	5
Sulfate	2400	D2	400	85	mg/L			05/20/22 04:34	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 20:55	1
Lithium	0.22		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 19:17	1
Boron	0.40		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:55	1
Calcium	730		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:42	1
Iron	0.36		0.10	0.010	mg/L		05/17/22 14:16	05/19/22 17:42	1
Magnesium	120		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 20:55	1
Manganese	6.5		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 20:55	1
Potassium	1.3		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 20:55	1
Sodium	1500	D2	2.5	0.15	mg/L		05/17/22 14:16	05/19/22 16:49	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000055	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:37	1
Arsenic	0.0014		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:37	1
Barium	0.011		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 14:03	1
Cadmium	0.000098	E4	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:37	1
Chromium	0.0033		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:37	1
Cobalt	0.016		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:37	1
Lead	0.0019		0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:37	1
Lithium	0.18		0.010	0.010	mg/L		05/17/22 08:03	05/27/22 13:33	1
Molybdenum	0.021		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:37	1
Selenium	0.0014		0.00050	0.000074	mg/L		05/17/22 08:03	05/26/22 16:17	1
Thallium	ND	E8	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 14:03	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.17		0.050	0.039	mg/L			05/16/22 14:10	1
Alkalinity as CaCO3	110		6.0	6.0	mg/L			05/18/22 13:54	1
Bicarbonate Alkalinity as CaCO3	110		6.0	6.0	mg/L			05/18/22 13:54	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 13:54	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 13:54	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 13:54	1
Total Dissolved Solids	7200	D2	100	100	mg/L			05/16/22 14:04	1
pH	7.6	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	11.9	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W305-0522

Lab Sample ID: 550-184150-22
Date Collected: 05/12/22 15:45
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.33		0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:28	1
Manganese	6.5		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:28	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0014		0.00050	0.00025	mg/L		05/18/22 08:01	05/26/22 16:34	1
Cobalt	0.017		0.00050	0.000063	mg/L		05/18/22 08:01	05/25/22 17:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.9		0.50	0.26	mg/L			05/14/22 19:26	1
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L			05/14/22 19:26	1
Dissolved Organic Carbon - Quad	1.9		0.50	0.26	mg/L			05/14/22 19:26	1

Client Sample ID: CH-CCR-W307R-0522

Lab Sample ID: 550-184150-23
Date Collected: 05/12/22 09:35
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	400	100	mg/L			05/20/22 05:06	200
Fluoride	0.55	D1 E4	0.80	0.095	mg/L			05/20/22 03:34	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			05/24/22 01:38	5
Sulfate	2900	D2	400	85	mg/L			05/20/22 05:06	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 13:41	05/18/22 18:55	1
Lithium	0.28		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 19:22	1
Boron	2.8		0.050	0.0025	mg/L		05/17/22 13:41	05/18/22 18:55	1
Calcium	700	M3	2.0	0.013	mg/L		05/17/22 13:41	05/19/22 15:23	1
Iron	0.12		0.10	0.010	mg/L		05/17/22 13:41	05/18/22 18:55	1
Magnesium	160	M3	2.0	0.044	mg/L		05/17/22 13:41	05/18/22 18:55	1
Manganese	2.3		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 18:55	1
Potassium	4.4		0.50	0.17	mg/L		05/17/22 13:41	05/18/22 18:55	1
Sodium	1900	M3	2.5	0.15	mg/L		05/17/22 13:41	05/19/22 15:12	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00013	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:10	1
Arsenic	0.0015		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:10	1
Barium	0.011		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 13:32	1
Cadmium	0.00032		0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:10	1
Chromium	0.0020		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:10	1
Cobalt	0.060		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:10	1
Lead	0.00058		0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:10	1
Lithium	0.18		0.010	0.010	mg/L		05/17/22 08:03	05/19/22 13:32	1
Molybdenum	0.021		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:10	1
Selenium	0.0014		0.00050	0.000074	mg/L		05/17/22 08:03	05/25/22 16:52	1
Thallium	0.00055		0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 13:32	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W307R-0522

Lab Sample ID: 550-184150-23
Date Collected: 05/12/22 09:35
Matrix: Water
Date Received: 05/13/22 16:15

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 18:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.045	E4 M2	0.050	0.039	mg/L			05/16/22 14:06	1
Alkalinity as CaCO3	150		6.0	6.0	mg/L			05/18/22 14:08	1
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L			05/18/22 14:08	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:08	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 14:08	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:08	1
Total Dissolved Solids	8600	D2	100	100	mg/L			05/16/22 14:04	1
pH	7.6	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	12.1	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-W307R-0522

Lab Sample ID: 550-184150-24
Date Collected: 05/12/22 09:35
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.13		0.10	0.010	mg/L		05/17/22 13:41	05/18/22 18:47	1
Manganese	2.3		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 18:47	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00093		0.00050	0.00025	mg/L		05/18/22 08:01	05/19/22 15:04	1
Cobalt	0.057		0.00050	0.000063	mg/L		05/18/22 08:01	05/19/22 15:04	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.1	M2 R13	0.50	0.26	mg/L			05/14/22 16:35	1
Dissolved Organic Carbon - Duplicate	1.1	M2 R13	0.50	0.26	mg/L			05/14/22 16:35	1
Dissolved Organic Carbon - Quad	1.1	M2 R13	0.50	0.26	mg/L			05/14/22 16:35	1

Client Sample ID: CH-CCR-W308-0522

Lab Sample ID: 550-184150-25
Date Collected: 05/12/22 11:11
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4300	D2	400	100	mg/L			05/20/22 05:02	200
Fluoride	0.40	D1 E4	0.80	0.095	mg/L			05/20/22 03:38	2
Nitrate Nitrite as N	3.9	D1	0.25	0.11	mg/L			05/24/22 03:02	5
Sulfate	4100	D2	400	85	mg/L			05/20/22 05:02	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 20:58	1
Lithium	0.41		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 19:40	1
Boron	0.42		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 20:58	1
Calcium	840		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:44	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W308-0522

Lab Sample ID: 550-184150-25
Date Collected: 05/12/22 11:11
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.088	E4	0.10	0.010	mg/L		05/17/22 14:16	05/19/22 17:44	1
Magnesium	130		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 20:58	1
Manganese	0.11		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 20:58	1
Potassium	6.2		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 20:58	1
Sodium	2100	D2	2.5	0.15	mg/L		05/17/22 14:16	05/19/22 16:51	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00012	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:39	1
Arsenic	0.0015		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:39	1
Barium	0.0073		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 14:06	1
Cadmium	0.000057	E4	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:39	1
Chromium	0.015		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:39	1
Cobalt	0.00094		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:39	1
Lead	ND	E8	0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:39	1
Lithium	0.34		0.010	0.010	mg/L		05/17/22 08:03	05/27/22 13:35	1
Molybdenum	0.0036		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:39	1
Selenium	0.0043		0.00050	0.000074	mg/L		05/17/22 08:03	05/26/22 16:19	1
Thallium	ND	E8	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 14:06	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 14:12	1
Alkalinity as CaCO3	190		6.0	6.0	mg/L			05/18/22 14:16	1
Bicarbonate Alkalinity as CaCO3	190		6.0	6.0	mg/L			05/18/22 14:16	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:16	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 14:16	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:16	1
Total Dissolved Solids	9900	D2	100	100	mg/L			05/16/22 15:04	1
pH	7.5	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	12.8	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-W308-0522

Lab Sample ID: 550-184150-26
Date Collected: 05/12/22 11:11
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.033	E4	0.10	0.010	mg/L		05/18/22 06:25	05/19/22 18:46	1
Manganese	0.11		0.010	0.00019	mg/L		05/18/22 06:25	05/19/22 18:46	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0011		0.00050	0.00025	mg/L		05/18/22 08:01	05/26/22 16:36	1
Cobalt	0.00086		0.00050	0.000063	mg/L		05/18/22 08:01	05/25/22 17:43	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W308-0522

Lab Sample ID: 550-184150-26
Date Collected: 05/12/22 11:11
Matrix: Water
Date Received: 05/13/22 16:15

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			05/14/22 19:38	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			05/14/22 19:38	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			05/14/22 19:38	1

Client Sample ID: CH-CCR-W309-0522

Lab Sample ID: 550-184150-27
Date Collected: 05/12/22 13:03
Matrix: Water
Date Received: 05/13/22 16:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	100	mg/L			05/20/22 05:30	200
Fluoride	1.3	D1	0.80	0.095	mg/L			05/20/22 04:06	2
Nitrate Nitrite as N	5.9	D1	0.25	0.11	mg/L			05/24/22 03:30	5
Sulfate	4700	D2	400	85	mg/L			05/20/22 05:30	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 21:00	1
Lithium	0.34		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 19:44	1
Boron	0.46		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 21:00	1
Calcium	450		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:46	1
Iron	0.068	E4	0.10	0.010	mg/L		05/17/22 14:16	05/19/22 17:46	1
Magnesium	91		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 21:00	1
Manganese	0.44		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 21:00	1
Potassium	4.9		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 21:00	1
Sodium	1900	D2	2.5	0.15	mg/L		05/17/22 14:16	05/19/22 16:54	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000073	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:41	1
Arsenic	0.0011		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:41	1
Barium	0.0069		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 14:08	1
Cadmium	0.000071	E4	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:41	1
Chromium	0.020		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:41	1
Cobalt	0.00040	E4	0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:41	1
Lead	ND	E8	0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:41	1
Lithium	0.27		0.010	0.010	mg/L		05/17/22 08:03	05/27/22 13:37	1
Molybdenum	0.0093		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:41	1
Selenium	0.22		0.00050	0.000074	mg/L		05/17/22 08:03	05/25/22 17:26	1
Thallium	0.000037	E4	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 14:08	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 14:13	1
Alkalinity as CaCO3	170		6.0	6.0	mg/L			05/18/22 14:24	1
Bicarbonate Alkalinity as CaCO3	170		6.0	6.0	mg/L			05/18/22 14:24	1

Client Sample ID: CH-CCR-W309-0522 — Lab Sample ID: 550-184150-27

Date Collected: 05/12/22 13:03
Date Received: 05/13/22 16:15
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:24	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 14:24	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:24	1
Total Dissolved Solids	**6400**	**D2**	100	100	mg/L			05/16/22 15:04	1
pH	**7.7**	**H5**	1.7	1.7	SU			05/21/22 13:01	1
Temperature	**14.2**	**H5**	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-W309-0522 — Lab Sample ID: 550-184150-28

Date Collected: 05/12/22 13:03
Date Received: 05/13/22 16:15
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.052**	**E4**	0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:31	1
Manganese	**0.43**		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:31	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00095**		0.00050	0.00025	mg/L		05/18/22 08:01	05/26/22 16:38	1
Cobalt	**0.00031**	**E4**	0.00050	0.000063	mg/L		05/18/22 08:01	05/25/22 17:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.76**		0.50	0.26	mg/L			05/14/22 19:50	1
Dissolved Organic Carbon - Duplicate	**0.78**		0.50	0.26	mg/L			05/14/22 19:50	1
Dissolved Organic Carbon - Quad	**0.76**		0.50	0.26	mg/L			05/14/22 19:50	1

Client Sample ID: CH-CCR-W314-0522 — Lab Sample ID: 550-184150-29

Date Collected: 05/11/22 11:55
Date Received: 05/13/22 16:15
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**	**D2**	400	100	mg/L			05/20/22 07:49	200
Fluoride	**1.0**	**D1**	0.80	0.095	mg/L			05/20/22 07:21	2
Nitrate Nitrite as N	**3.9**	**D1**	0.25	0.11	mg/L			05/24/22 03:58	5
Sulfate	**2500**	**D2**	400	85	mg/L			05/20/22 07:49	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.30**		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 20:06	1
Boron	**1.4**		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 21:03	1
Calcium	**730**		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:49	1
Iron	**0.11**		0.10	0.010	mg/L		05/17/22 14:16	05/19/22 17:49	1
Manganese	**0.097**		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 21:03	1
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 21:03	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.000059**	**E4**	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:43	1
Arsenic	**0.0014**		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:43	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W314-0522

Lab Sample ID: 550-184150-29
Date Collected: 05/11/22 11:55
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.011		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 14:10	1
Cadmium	0.00041		0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:43	1
Chromium	0.0063		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:43	1
Cobalt	0.032		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:43	1
Lead	0.00065		0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:43	1
Lithium	0.24		0.010	0.010	mg/L		05/17/22 08:03	05/27/22 13:39	1
Molybdenum	0.037		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:43	1
Selenium	0.0010		0.00050	0.000074	mg/L		05/17/22 08:03	05/26/22 16:24	1
Thallium	ND	E8	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 14:10	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 14:15	1
Alkalinity as CaCO3	110		6.0	6.0	mg/L			05/18/22 14:32	1
Bicarbonate Alkalinity as CaCO3	110		6.0	6.0	mg/L			05/18/22 14:32	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:32	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 14:32	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:32	1
Total Dissolved Solids	7300	D2	100	100	mg/L			05/16/22 13:10	1
pH	7.6	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	13.3	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample ID: CH-CCR-W314-0522

Lab Sample ID: 550-184150-30
Date Collected: 05/11/22 11:55
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.064	E4	0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:34	1
Manganese	0.063		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:34	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0014		0.00050	0.00025	mg/L		05/18/22 08:01	05/26/22 16:40	1
Cobalt	0.033		0.00050	0.000063	mg/L		05/18/22 08:01	05/25/22 17:47	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L			05/14/22 20:02	1
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L			05/14/22 20:02	1
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L			05/14/22 20:02	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-FD04-0522

Date Collected: 05/12/22 09:35
Date Received: 05/13/22 16:15

Lab Sample ID: 550-184150-31

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	400	100	mg/L			05/20/22 08:47	200
Fluoride	0.47	D1 E4	0.80	0.095	mg/L			05/20/22 07:52	2
Nitrate Nitrite as N	3.3	D1	0.25	0.11	mg/L			05/24/22 04:26	5
Sulfate	2800	D2	400	85	mg/L			05/20/22 08:47	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 21:05	1
Lithium	0.26		0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 20:11	1
Boron	2.9		0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 21:05	1
Calcium	720		2.0	0.013	mg/L		05/17/22 14:16	05/19/22 17:51	1
Iron	0.11		0.10	0.010	mg/L		05/17/22 14:16	05/19/22 17:51	1
Magnesium	160		2.0	0.044	mg/L		05/17/22 14:16	05/18/22 21:05	1
Manganese	2.3		0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 21:05	1
Potassium	4.2		0.50	0.17	mg/L		05/17/22 14:16	05/18/22 21:05	1
Sodium	2000	D2	2.5	0.15	mg/L		05/17/22 14:16	05/19/22 16:56	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000077	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 19:45	1
Arsenic	0.0018		0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 19:45	1
Barium	0.012		0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 14:12	1
Cadmium	0.00031		0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 19:45	1
Chromium	0.0022		0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 19:45	1
Cobalt	0.060		0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 19:45	1
Lead	0.00075		0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 19:45	1
Lithium	0.20		0.010	0.010	mg/L		05/17/22 08:03	05/27/22 13:42	1
Molybdenum	0.021		0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 19:45	1
Selenium	0.0016		0.00050	0.000074	mg/L		05/17/22 08:03	05/26/22 16:26	1
Thallium	ND	E8	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 14:12	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 19:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 14:16	1
Alkalinity as CaCO3	150		6.0	6.0	mg/L			05/18/22 14:39	1
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L			05/18/22 14:39	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:39	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 14:39	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 14:39	1
Total Dissolved Solids	6900	D2	100	100	mg/L			05/16/22 15:04	1
pH	7.5	H5	1.7	1.7	SU			05/21/22 13:01	1
Temperature	13.0	H5	0.1	0.1	Degrees C			05/21/22 13:01	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-FD04-0522

Lab Sample ID: 550-184150-32

Date Collected: 05/12/22 09:35
Matrix: Water
Date Received: 05/13/22 16:15

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.12		0.10	0.010	mg/L		05/17/22 13:41	05/18/22 19:36	1
Manganese	2.4		0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 19:36	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0018		0.00050	0.00025	mg/L		05/18/22 08:01	05/26/22 16:42	1
Cobalt	0.061		0.00050	0.000063	mg/L		05/18/22 08:01	05/25/22 17:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			05/14/22 20:14	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			05/14/22 20:14	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			05/14/22 20:14	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-274719/1041
Matrix: Water
Analysis Batch: 274719

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/19/22 22:40	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/19/22 22:40	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/19/22 22:40	1

Lab Sample ID: LCS 550-274719/42
Matrix: Water
Analysis Batch: 274719

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.9		mg/L		104	90 - 110
Fluoride	4.00	4.09		mg/L		102	90 - 110
Sulfate	20.0	20.5		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-274719/43
Matrix: Water
Analysis Batch: 274719

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.08		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.5		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184150-23 MS
Matrix: Water
Analysis Batch: 274719

Client Sample ID: CH-CCR-W307R-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.55	E4 D1	8.00	7.79	D1	mg/L		90	80 - 120

Lab Sample ID: 550-184150-23 MS
Matrix: Water
Analysis Batch: 274719

Client Sample ID: CH-CCR-W307R-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2700	D2	4000	7180	D2	mg/L		111	80 - 120
Sulfate	2900	D2	4000	7160	D2	mg/L		107	80 - 120

Lab Sample ID: 550-184150-23 MSD
Matrix: Water
Analysis Batch: 274719

Client Sample ID: CH-CCR-W307R-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.55	E4 D1	8.00	7.97	D1	mg/L		93	80 - 120	2	20

Lab Sample ID: 550-184150-23 MSD
Matrix: Water
Analysis Batch: 274719

Client Sample ID: CH-CCR-W307R-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2700	D2	4000	7190	D2	mg/L		111	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274719

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	2900	D2	4000	7180	D2	mg/L		108	80 - 120	0	20

Lab Sample ID: MB 550-274721/1030 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274721

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/20/22 00:22	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/20/22 00:22	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/20/22 00:22	1

Lab Sample ID: LCS 550-274721/31 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274721

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.09		mg/L		102	90 - 110
Sulfate	20.0	20.3		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-274721/32 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274721

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.5		mg/L		103	90 - 110	1	20
Fluoride	4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.2		mg/L		101	90 - 110	1	20

Lab Sample ID: 550-184386-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274721

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	86	M3	20.0	104	M3	mg/L		85	80 - 120
Fluoride	2.5		4.00	6.69		mg/L		105	80 - 120
Sulfate	430	E2 M3	20.0	433	E2 M3	mg/L		-1	80 - 120

Lab Sample ID: 550-184386-E-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274721

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	86	M3	20.0	104	M3	mg/L		87	80 - 120	0	20
Fluoride	2.5		4.00	6.74		mg/L		107	80 - 120	1	20
Sulfate	430	E2 M3	20.0	435	E2 M3	mg/L		7	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-274723/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274723

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/19/22 10:52	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/19/22 10:52	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/19/22 10:52	1

Lab Sample ID: LCS 550-274723/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274723

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.9		mg/L		105	90 - 110
Fluoride	4.00	4.02		mg/L		101	90 - 110
Sulfate	20.0	20.3		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-274723/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274723

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.02		mg/L		101	90 - 110	0	20
Sulfate	20.0	20.3		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-184318-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274723

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	300	E2 M3	20.0	301	E2 M3	mg/L		15	80 - 120
Fluoride	0.37	E4	4.00	4.39		mg/L		100	80 - 120
Sulfate	500	E2 M3	20.0	495	E2 M3	mg/L		-15	80 - 120

Lab Sample ID: 550-184318-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274723

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	300	E2 M3	20.0	300	E2 M3	mg/L		14	80 - 120	0	20
Fluoride	0.37	E4	4.00	4.27		mg/L		97	80 - 120	3	20
Sulfate	500	E2 M3	20.0	495	E2 M3	mg/L		-15	80 - 120	0	20

Lab Sample ID: MB 550-274836/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			05/20/22 10:44	1
Fluoride	ND	E8	0.40	0.047	mg/L			05/20/22 10:44	1
Sulfate	ND	E8	2.0	0.43	mg/L			05/20/22 10:44	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-274836/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.9		mg/L		104	90 - 110
Fluoride	4.00	4.11		mg/L		103	90 - 110
Sulfate	20.0	20.5		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-274836/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.10		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.5		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184147-E-3 MS ^50 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1400	D2	1000	2480	D2	mg/L		104	80 - 120
Sulfate	360	D2	1000	1400	D2	mg/L		105	80 - 120

Lab Sample ID: 550-184147-E-3 MSD ^50 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274836

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1400	D2	1000	2460	D2	mg/L		103	80 - 120	1	20
Sulfate	360	D2	1000	1400	D2	mg/L		105	80 - 120	0	20

Lab Sample ID: MB 550-274923/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274923

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			05/21/22 09:34	1

Lab Sample ID: LCS 550-274923/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274923

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	8.00	8.15		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-274923/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274923

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	8.18		mg/L		102	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-184129-A-2 MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274923

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	44.7	D1	mg/L		112	80 - 120		

Lab Sample ID: 550-184129-A-2 MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274923

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	43.9	D1	mg/L		110	80 - 120	2	20

Lab Sample ID: MB 550-274979/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274979

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			05/23/22 10:55	1

Lab Sample ID: LCS 550-274979/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274979

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	8.00	8.12		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-274979/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274979

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	8.14		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184467-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274979

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	11		8.00	19.0		mg/L		99	80 - 120		

Lab Sample ID: 550-184467-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274979

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	11		8.00	19.0		mg/L		101	80 - 120	0	20

Lab Sample ID: MB 550-274980/1030 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274980

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			05/24/22 00:14	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 550-274980/31
Matrix: Water
Analysis Batch: 274980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N			8.00	8.13		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-274980/32
Matrix: Water
Analysis Batch: 274980

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N			8.00	8.14		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184150-23 MS
Matrix: Water
Analysis Batch: 274980

Client Sample ID: CH-CCR-W307R-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	36.8	D1	mg/L		92	80 - 120		

Lab Sample ID: 550-184150-23 MSD
Matrix: Water
Analysis Batch: 274980

Client Sample ID: CH-CCR-W307R-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	37.0	D1	mg/L		93	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-274399/1-A
Matrix: Water
Analysis Batch: 274622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 274399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00809	E4	0.050	0.0025	mg/L		05/17/22 13:41	05/18/22 18:34	1
Iron	0.0249	E4	0.10	0.010	mg/L		05/17/22 13:41	05/18/22 18:34	1
Magnesium	ND	E8	2.0	0.044	mg/L		05/17/22 13:41	05/18/22 18:34	1
Manganese	0.000270	E4	0.010	0.00019	mg/L		05/17/22 13:41	05/18/22 18:34	1
Potassium	ND	E8	0.50	0.17	mg/L		05/17/22 13:41	05/18/22 18:34	1
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 13:41	05/18/22 18:34	1

Lab Sample ID: MB 550-274399/1-A
Matrix: Water
Analysis Batch: 274759

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 274399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND	E8	2.0	0.013	mg/L		05/17/22 13:41	05/19/22 15:00	1
Sodium	0.0832	E4	0.50	0.031	mg/L		05/17/22 13:41	05/19/22 15:00	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-274399/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274622 — **Prep Batch: 274399**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	1.01		mg/L		101	85 - 115
Iron	1.00	1.01		mg/L		101	85 - 115
Magnesium	21.0	20.7		mg/L		98	85 - 115
Manganese	1.00	0.947		mg/L		95	85 - 115
Potassium	20.0	19.6		mg/L		98	85 - 115
Beryllium	1.00	1.02	V1	mg/L		102	85 - 115

Lab Sample ID: LCS 550-274399/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274759 — **Prep Batch: 274399**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	21.0	20.3		mg/L		97	85 - 115
Sodium	20.0	19.1		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-274399/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274622 — **Prep Batch: 274399**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	0.997		mg/L		100	85 - 115	1	20
Iron	1.00	0.971		mg/L		97	85 - 115	4	20
Magnesium	21.0	20.7		mg/L		98	85 - 115	0	20
Manganese	1.00	0.939		mg/L		94	85 - 115	1	20
Potassium	20.0	19.7		mg/L		99	85 - 115	1	20
Beryllium	1.00	1.03	V1	mg/L		103	85 - 115	1	20

Lab Sample ID: LCSD 550-274399/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274759 — **Prep Batch: 274399**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	21.0	20.5		mg/L		98	85 - 115	1	20
Sodium	20.0	19.1		mg/L		96	85 - 115	0	20

Lab Sample ID: 550-184150-23 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274622 — **Prep Batch: 274399**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND	E8 V1	1.00	1.06	V1	mg/L		106	70 - 130
Boron	2.8		1.00	3.73		mg/L		88	70 - 130
Iron	0.12		1.00	1.12		mg/L		100	70 - 130
Magnesium	160	M3	21.0	172	M3	mg/L		42	70 - 130
Manganese	2.3		1.00	3.08		mg/L		79	70 - 130
Potassium	4.4		20.0	26.4		mg/L		110	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184150-23 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274759 — **Prep Batch: 274399**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	1900	M3	20.0	1790	M3	mg/L		-497	70 - 130

Lab Sample ID: 550-184150-23 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274759 — **Prep Batch: 274399**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	700	M3	21.0	708	M3	mg/L		20	70 - 130

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274622 — **Prep Batch: 274399**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND	E8 V1	1.00	1.08	V1	mg/L		108	70 - 130	2	20
Boron	2.8		1.00	3.76		mg/L		91	70 - 130	1	20
Iron	0.12		1.00	1.14		mg/L		102	70 - 130	2	20
Magnesium	160	M3	21.0	177	M3	mg/L		69	70 - 130	3	20
Manganese	2.3		1.00	3.08		mg/L		80	70 - 130	0	20
Potassium	4.4		20.0	27.2		mg/L		114	70 - 130	3	20

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274759 — **Prep Batch: 274399**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	1900	M3	20.0	1840	M3	mg/L		-217	70 - 130	3	20

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274759 — **Prep Batch: 274399**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	700	M3	21.0	701	M3	mg/L		-15	70 - 130	1	20

Lab Sample ID: MB 550-274401/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274623 — **Prep Batch: 274401**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00535	E4	0.050	0.0025	mg/L		05/17/22 14:16	05/18/22 19:53	1
Iron	ND	E8	0.10	0.010	mg/L		05/17/22 14:16	05/18/22 19:53	1
Magnesium	ND	E8	2.0	0.044	mg/L		05/17/22 14:16	05/18/22 19:53	1
Manganese	0.000530	E4	0.010	0.00019	mg/L		05/17/22 14:16	05/18/22 19:53	1
Potassium	ND	E8	0.50	0.17	mg/L		05/17/22 14:16	05/18/22 19:53	1
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		05/17/22 14:16	05/18/22 19:53	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-274401/1-A
Matrix: Water
Analysis Batch: 274760

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 274401

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00926	E4	0.050	0.0025	mg/L		05/17/22 14:16	05/19/22 16:00	1
Calcium	ND	E8	2.0	0.013	mg/L		05/17/22 14:16	05/19/22 16:00	1
Iron	ND	E8	0.10	0.010	mg/L		05/17/22 14:16	05/19/22 16:00	1
Magnesium	ND	E8	2.0	0.044	mg/L		05/17/22 14:16	05/19/22 16:00	1
Manganese	0.000370	E4	0.010	0.00019	mg/L		05/17/22 14:16	05/19/22 16:00	1
Potassium	ND	E8	0.50	0.17	mg/L		05/17/22 14:16	05/19/22 16:00	1
Sodium	0.0528	E4	0.50	0.031	mg/L		05/17/22 14:16	05/19/22 16:00	1
Beryllium	ND	E8	0.0010	0.000067	mg/L		05/17/22 14:16	05/19/22 16:00	1

Lab Sample ID: LCS 550-274401/2-A
Matrix: Water
Analysis Batch: 274623

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 274401

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.956		mg/L		96	85 - 115
Iron	1.00	0.922		mg/L		92	85 - 115
Magnesium	21.0	19.2		mg/L		91	85 - 115
Manganese	1.00	0.911		mg/L		91	85 - 115
Potassium	20.0	18.4		mg/L		92	85 - 115
Beryllium	1.00	0.970	V1	mg/L		97	85 - 115

Lab Sample ID: LCS 550-274401/2-A
Matrix: Water
Analysis Batch: 274760

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 274401

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.951		mg/L		95	85 - 115
Calcium	21.0	19.9		mg/L		95	85 - 115
Iron	1.00	0.919		mg/L		92	85 - 115
Magnesium	21.0	19.5		mg/L		93	85 - 115
Manganese	1.00	0.921		mg/L		92	85 - 115
Potassium	20.0	18.5		mg/L		92	85 - 115
Sodium	20.0	18.5		mg/L		92	85 - 115
Beryllium	1.00	0.964		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-274401/3-A
Matrix: Water
Analysis Batch: 274623

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 274401

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	0.977		mg/L		98	85 - 115	2	20
Iron	1.00	0.950		mg/L		95	85 - 115	3	20
Magnesium	21.0	19.6		mg/L		93	85 - 115	2	20
Manganese	1.00	0.924		mg/L		92	85 - 115	1	20
Potassium	20.0	19.1		mg/L		95	85 - 115	4	20
Beryllium	1.00	0.989	V1	mg/L		99	85 - 115	2	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-274401/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274760 — **Prep Batch: 274401**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron			1.00	0.978		mg/L		98	85 - 115	3	20
Calcium			21.0	20.3		mg/L		97	85 - 115	2	20
Iron			1.00	0.940		mg/L		94	85 - 115	2	20
Magnesium			21.0	19.9		mg/L		95	85 - 115	2	20
Manganese			1.00	0.941		mg/L		94	85 - 115	2	20
Potassium			20.0	19.2		mg/L		96	85 - 115	4	20
Sodium			20.0	18.9		mg/L		95	85 - 115	2	20
Beryllium			1.00	0.982		mg/L		98	85 - 115	2	20

Lab Sample ID: 550-184147-F-3-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274623 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron	0.50		1.00	1.51		mg/L		101	70 - 130		
Iron	0.57		1.00	1.52		mg/L		96	70 - 130		
Magnesium	31		21.0	49.1		mg/L		87	70 - 130		
Manganese	0.064		1.00	0.995		mg/L		93	70 - 130		
Potassium	3.1		20.0	23.4		mg/L		102	70 - 130		
Beryllium	ND	E8 V1	1.00	1.05	V1	mg/L		105	70 - 130		

Lab Sample ID: 550-184147-F-3-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274760 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron	0.50		1.00	1.48		mg/L		98	70 - 130		
Calcium	87		21.0	103	M3	mg/L		77	70 - 130		
Iron	0.54		1.00	1.51		mg/L		97	70 - 130		
Magnesium	30		21.0	49.1		mg/L		90	70 - 130		
Manganese	0.064		1.00	0.994		mg/L		93	70 - 130		
Potassium	3.0		20.0	23.4		mg/L		102	70 - 130		
Beryllium	ND	E8	1.00	1.04		mg/L		104	70 - 130		

Lab Sample ID: 550-184147-F-3-A MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274760 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Sodium	910	M3	20.0	889	M3	mg/L		-104	70 - 130		

Lab Sample ID: 550-184147-F-3-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274623 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.50		1.00	1.49		mg/L		98	70 - 130	2	20
Iron	0.57		1.00	1.51		mg/L		94	70 - 130	1	20
Magnesium	31		21.0	48.5		mg/L		84	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184147-F-3-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274623 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Manganese	0.064		1.00	0.984		mg/L		92	70 - 130	1	20
Potassium	3.1		20.0	23.0		mg/L		100	70 - 130	2	20
Beryllium	ND	E8 V1	1.00	1.03	V1	mg/L		103	70 - 130	1	20

Lab Sample ID: 550-184147-F-3-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274760 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.50		1.00	1.46		mg/L		96	70 - 130	1	20
Calcium	87		21.0	104	M3	mg/L		85	70 - 130	2	20
Iron	0.54		1.00	1.55		mg/L		101	70 - 130	2	20
Magnesium	30		21.0	49.7		mg/L		92	70 - 130	1	20
Manganese	0.064		1.00	0.986		mg/L		92	70 - 130	1	20
Potassium	3.0		20.0	23.8		mg/L		104	70 - 130	2	20
Beryllium	ND	E8	1.00	1.06		mg/L		106	70 - 130	2	20

Lab Sample ID: 550-184147-F-3-B MSD ^2 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274760 — **Prep Batch: 274401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	910	M3	20.0	869	M3	mg/L		-203	70 - 130	2	20

Lab Sample ID: MB 550-274471/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274762 — **Prep Batch: 274471**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		05/18/22 06:25	05/19/22 18:00	1
Manganese	ND	E8	0.010	0.00019	mg/L		05/18/22 06:25	05/19/22 18:00	1

Lab Sample ID: LCS 550-274471/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274762 — **Prep Batch: 274471**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	0.953		mg/L		95	85 - 115
Manganese	1.00	0.948		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-274471/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274762 — **Prep Batch: 274471**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	1.00	0.943		mg/L		94	85 - 115	1	20
Manganese	1.00	0.923		mg/L		92	85 - 115	3	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 280-576005/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 576245 — **Prep Batch: 576005**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		05/25/22 08:52	05/25/22 18:01	1

Lab Sample ID: LCS 280-576005/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 576245 — **Prep Batch: 576005**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.01		mg/L		101	90 - 112

Lab Sample ID: 550-184150-23 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 576245 — **Prep Batch: 576005**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.28		1.00	1.33		mg/L		106	70 - 130

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 576245 — **Prep Batch: 576005**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.28		1.00	1.31		mg/L		103	70 - 130	2	20

Lab Sample ID: 550-184150-24 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 274622 — **Prep Batch: 274399**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	0.13		1.00	1.11		mg/L		99	70 - 130
Manganese	2.3		1.00	3.17		mg/L		87	70 - 130

Lab Sample ID: 550-184150-24 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 274622 — **Prep Batch: 274399**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	0.13		1.00	1.18		mg/L		105	70 - 130	6	20
Manganese	2.3		1.00	3.11		mg/L		81	70 - 130	2	20

Lab Sample ID: 550-183883-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 274762 — **Prep Batch: 274471**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	ND	E8	1.00	0.956		mg/L		96	70 - 130
Manganese	0.00045	E4	1.00	0.918		mg/L		92	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-183883-A-2-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 274762 — **Prep Batch: 274471**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	ND	E8	1.00	0.975		mg/L		98	70 - 130	2	20
Manganese	0.00045	E4	1.00	0.921		mg/L		92	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-274349/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274611 — **Prep Batch: 274349**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000710	E4	0.0010	0.000043	mg/L		05/17/22 08:03	05/18/22 18:59	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		05/17/22 08:03	05/18/22 18:59	1
Barium	0.000293	E4	0.00050	0.00026	mg/L		05/17/22 08:03	05/18/22 18:59	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		05/17/22 08:03	05/18/22 18:59	1
Chromium	ND	E8	0.0010	0.00043	mg/L		05/17/22 08:03	05/18/22 18:59	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		05/17/22 08:03	05/18/22 18:59	1
Lead	ND	E8	0.00050	0.00022	mg/L		05/17/22 08:03	05/18/22 18:59	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		05/17/22 08:03	05/18/22 18:59	1

Lab Sample ID: MB 550-274349/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274734 — **Prep Batch: 274349**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.000268	E4	0.00050	0.00026	mg/L		05/17/22 08:03	05/19/22 13:22	1
Lithium	ND	E8	0.010	0.010	mg/L		05/17/22 08:03	05/19/22 13:22	1
Thallium	ND	E8	0.00010	0.000013	mg/L		05/17/22 08:03	05/19/22 13:22	1

Lab Sample ID: MB 550-274349/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275230 — **Prep Batch: 274349**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	E8	0.00050	0.000074	mg/L		05/17/22 08:03	05/25/22 16:42	1

Lab Sample ID: LCS 550-274349/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274611 — **Prep Batch: 274349**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.108		mg/L		108	85 - 115
Arsenic	0.100	0.105		mg/L		105	85 - 115
Cadmium	0.100	0.109		mg/L		109	85 - 115
Chromium	0.100	0.104		mg/L		104	85 - 115
Cobalt	0.100	0.108		mg/L		108	85 - 115
Lead	0.100	0.106		mg/L		106	85 - 115
Molybdenum	0.100	0.107		mg/L		107	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-274349/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274734 — **Prep Batch: 274349**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.100	0.0928		mg/L		93	
Thallium	0.100	0.0948		mg/L		95	85 - 115

Lab Sample ID: LCS 550-274349/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274734 — **Prep Batch: 274349**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.113		mg/L		113	85 - 115

Lab Sample ID: LCS 550-274349/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275230 — **Prep Batch: 274349**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.106		mg/L		106	85 - 115

Lab Sample ID: LCSD 550-274349/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274611 — **Prep Batch: 274349**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0958		mg/L		96	85 - 115	12	20
Arsenic	0.100	0.0968		mg/L		97	85 - 115	8	20
Cadmium	0.100	0.0939		mg/L		94	85 - 115	14	20
Chromium	0.100	0.0967		mg/L		97	85 - 115	7	20
Cobalt	0.100	0.0997		mg/L		100	85 - 115	8	20
Lead	0.100	0.0981		mg/L		98	85 - 115	7	20
Molybdenum	0.100	0.0938		mg/L		94	85 - 115	13	20

Lab Sample ID: LCSD 550-274349/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274734 — **Prep Batch: 274349**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.100	0.0961		mg/L		96		4	
Thallium	0.100	0.0954		mg/L		95	85 - 115	1	20

Lab Sample ID: LCSD 550-274349/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274734 — **Prep Batch: 274349**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.100	0.109		mg/L		109	85 - 115	4	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-274349/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275230 — **Prep Batch: 274349**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium			0.100	0.101		mg/L		101	85 - 115	4	20

Lab Sample ID: 550-184150-23 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274611 — **Prep Batch: 274349**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	0.00013	E4	0.100	0.104		mg/L		103	70 - 130		
Arsenic	0.0015		0.100	0.105		mg/L		103	70 - 130		
Cadmium	0.00032		0.100	0.0923		mg/L		92	70 - 130		
Chromium	0.0020		0.100	0.0945		mg/L		93	70 - 130		
Cobalt	0.060		0.100	0.151		mg/L		91	70 - 130		
Lead	0.00058		0.100	0.0905		mg/L		90	70 - 130		
Molybdenum	0.021		0.100	0.122		mg/L		101	70 - 130		

Lab Sample ID: 550-184150-23 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274734 — **Prep Batch: 274349**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Barium	0.011		0.100	0.134		mg/L		122	70 - 130		
Lithium	0.18		0.100	0.269		mg/L		85			
Thallium	0.00055		0.100	0.0836		mg/L		83	70 - 130		

Lab Sample ID: 550-184150-23 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275230 — **Prep Batch: 274349**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Selenium	0.0014		0.100	0.120		mg/L		119	70 - 130		

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274611 — **Prep Batch: 274349**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.00013	E4	0.100	0.101		mg/L		101	70 - 130	2	20
Arsenic	0.0015		0.100	0.103		mg/L		102	70 - 130	2	20
Cadmium	0.00032		0.100	0.0909		mg/L		91	70 - 130	2	20
Chromium	0.0020		0.100	0.0949		mg/L		93	70 - 130	0	20
Cobalt	0.060		0.100	0.150		mg/L		91	70 - 130	1	20
Lead	0.00058		0.100	0.0885		mg/L		88	70 - 130	2	20
Molybdenum	0.021		0.100	0.124		mg/L		103	70 - 130	2	20

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274734 — **Prep Batch: 274349**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.011		0.100	0.130		mg/L		119	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274734 — **Prep Batch: 274349**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.18		0.100	0.258		mg/L		73		4	
Thallium	0.00055		0.100	0.0816		mg/L		81	70 - 130	2	20

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275230 — **Prep Batch: 274349**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.0014		0.100	0.126		mg/L		125	70 - 130	5	20

Lab Sample ID: MB 550-274480/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274739 — **Prep Batch: 274480**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		05/18/22 08:01	05/19/22 14:54	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		05/18/22 08:01	05/19/22 14:54	1

Lab Sample ID: LCS 550-274480/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274739 — **Prep Batch: 274480**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0940		mg/L		94	85 - 115
Cobalt	0.100	0.0953		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-274480/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274739 — **Prep Batch: 274480**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.100	0.0946		mg/L		95	85 - 115	1	20
Cobalt	0.100	0.0951		mg/L		95	85 - 115	0	20

Lab Sample ID: 550-184150-24 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 274739 — **Prep Batch: 274480**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.00093		0.100	0.101		mg/L		100	70 - 130
Cobalt	0.057		0.100	0.145		mg/L		89	70 - 130

Lab Sample ID: 550-184150-24 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 274739 — **Prep Batch: 274480**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.00093		0.100	0.0965		mg/L		96	70 - 130	4	20
Cobalt	0.057		0.100	0.132		mg/L		76	70 - 130	9	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-274289/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274337 — **Prep Batch: 274289**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		05/16/22 15:12	05/16/22 18:42	1

Lab Sample ID: LCS 550-274289/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274337 — **Prep Batch: 274289**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hg	0.00500	0.00462		mg/L		92	85 - 115

Lab Sample ID: LCSD 550-274289/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274337 — **Prep Batch: 274289**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	0.00500	0.00453		mg/L		91	85 - 115	2	20

Lab Sample ID: 550-184150-23 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274337 — **Prep Batch: 274289**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hg	ND	E8	0.00500	0.00558		mg/L		112	70 - 130

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274337 — **Prep Batch: 274289**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00584		mg/L		117	70 - 130	5	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-274309/21 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274309

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			05/16/22 13:34	1

Lab Sample ID: LCS 550-274309/22 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274309

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	1.02		mg/L		102	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: LCSD 550-274309/23 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274309

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia			1.00	1.01		mg/L		101	90 - 110	1	20

Lab Sample ID: 550-184150-1 MS — **Client Sample ID: CH-CCR-M55A-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274309

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia	ND	E8	1.00	0.912		mg/L		91	90 - 110		

Lab Sample ID: 550-184150-1 MSD — **Client Sample ID: CH-CCR-M55A-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274309

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND	E8	1.00	1.07		mg/L		107	90 - 110	15	20

Lab Sample ID: 550-184150-23 MS — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274309

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia	0.045	E4 M2	1.00	0.934	M2	mg/L		89	90 - 110		

Lab Sample ID: 550-184150-23 MSD — **Client Sample ID: CH-CCR-W307R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274309

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.045	E4 M2	1.00	1.08		mg/L		103	90 - 110	14	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-274630/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274630

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 11:45	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 11:45	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 11:45	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			05/18/22 11:45	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			05/18/22 11:45	1

Lab Sample ID: LCS 550-274630/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274630

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	252		mg/L		101	90 - 110		

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCSD 550-274630/17 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274630

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	248		mg/L		99	90 - 110	2	20

Lab Sample ID: 550-184091-K-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274630

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	210			206		mg/L				0.5	20
Bicarbonate Alkalinity as CaCO3	210			206		mg/L				0.5	20
Carbonate Alkalinity as CaCO3	ND	E8		ND	E8	mg/L				NC	20
Alkalinity, Phenolphthalein	ND	E8		ND	E8	mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND	E8		ND	E8	mg/L				NC	20

Lab Sample ID: 550-184177-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274630

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	93			93.3		mg/L				0	20
Bicarbonate Alkalinity as CaCO3	93			93.3		mg/L				0	20
Carbonate Alkalinity as CaCO3	ND	E8		ND	E8	mg/L				NC	20
Alkalinity, Phenolphthalein	ND	E8		ND	E8	mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND	E8		ND	E8	mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-274273/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274273

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			05/16/22 13:10	1

Lab Sample ID: LCS 550-274273/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274273

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1020		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-274273/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274273

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1020		mg/L		102	90 - 110	0	10

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 550-184150-3 DU — **Client Sample ID: CH-CCR-M71A-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274273

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	7700	D2		7990	D2	mg/L				4	10

Lab Sample ID: MB 550-274286/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274286

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			05/16/22 14:04	1

Lab Sample ID: LCS 550-274286/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274286

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	982		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-274286/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274286

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	992		mg/L		99	90 - 110	1	10

Lab Sample ID: 550-183973-F-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274286

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	6700	D2		6830	D2	mg/L				3	10

Lab Sample ID: MB 550-274292/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274292

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			05/16/22 15:04	1

Lab Sample ID: LCS 550-274292/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274292

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	988		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-274292/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 274292

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110	2	10

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: 550-184057-C-1 DU
Matrix: Water
Analysis Batch: 274292

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	3600	D2		3360	D2	mg/L				7	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-274862/13
Matrix: Water
Analysis Batch: 274862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.9		SU		99.1	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-274862/25
Matrix: Water
Analysis Batch: 274862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-274862/37
Matrix: Water
Analysis Batch: 274862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: 550-184147-A-5 DU
Matrix: Water
Analysis Batch: 274862

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6	H5		7.7	H5	SU				0.7	5
Temperature	13.9	H5		12.2	H5	Degrees C				13	

Lab Sample ID: 550-184150-19 DU
Matrix: Water
Analysis Batch: 274862

Client Sample ID: CH-CCR-W304-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6	H5		7.6	H5	SU				0	5
Temperature	13.5	H5		12.6	H5	Degrees C				7	

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-274367/4
Matrix: Water
Analysis Batch: 274367

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			05/14/22 15:50	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			05/14/22 15:50	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			05/14/22 15:50	1

Lab Sample ID: LCS 550-274367/5
Matrix: Water
Analysis Batch: 274367

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	20.0		mg/L		100	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	20.0		mg/L		100	90 - 110
Dissolved Organic Carbon - Quad	20.0	20.0		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-274367/6
Matrix: Water
Analysis Batch: 274367

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	20.0		mg/L		100	90 - 110	0	20
Dissolved Organic Carbon - Duplicate	20.0	20.0		mg/L		100	90 - 110	0	20
Dissolved Organic Carbon - Quad	20.0	20.0		mg/L		100	90 - 110	0	20

Lab Sample ID: 550-184150-24 MS
Matrix: Water
Analysis Batch: 274367

Client Sample ID: CH-CCR-W307R-0522
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	1.1	R13 M2	20.0	14.3	M2 R13	mg/L		66	90 - 110
Dissolved Organic Carbon - Duplicate	1.1	R13 M2	20.0	14.3	M2 R13	mg/L		66	90 - 110
Dissolved Organic Carbon - Quad	1.1	R13 M2	20.0	14.3	M2 R13	mg/L		66	90 - 110

Lab Sample ID: 550-184150-24 MSD
Matrix: Water
Analysis Batch: 274367

Client Sample ID: CH-CCR-W307R-0522
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.1	R13 M2	20.0	18.9	M2 R13	mg/L		89	90 - 110	28	20
Dissolved Organic Carbon - Duplicate	1.1	R13 M2	20.0	18.9	M2 R13	mg/L		89	90 - 110	28	20
Dissolved Organic Carbon - Quad	1.1	R13 M2	20.0	18.9	M2 R13	mg/L		89	90 - 110	28	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

HPLC/IC

Analysis Batch: 274719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	300.0	
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	300.0	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	300.0	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	300.0	
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	300.0	
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	300.0	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	300.0	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	300.0	
MB 550-274719/1041	Method Blank	Total/NA	Water	300.0	
LCS 550-274719/42	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274719/43	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	300.0	
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	300.0	
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	300.0	
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	300.0	

Analysis Batch: 274721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	300.0	
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	300.0	
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	300.0	
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	300.0	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	300.0	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	300.0	
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	300.0	
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	300.0	
MB 550-274721/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-274721/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274721/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184386-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184386-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 274723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	300.0	
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	300.0	
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	300.0	
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	300.0	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	300.0	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	300.0	
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	300.0	
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	300.0	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	300.0	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	300.0	
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	300.0	
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	300.0	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	300.0	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	300.0	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	300.0	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	300.0	
MB 550-274723/2	Method Blank	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 274723 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-274723/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274723/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184318-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184318-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 274836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	300.0	
MB 550-274836/2	Method Blank	Total/NA	Water	300.0	
LCS 550-274836/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274836/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184147-E-3 MS ^50	Matrix Spike	Total/NA	Water	300.0	
550-184147-E-3 MSD ^50	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 274923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	300.0	
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	300.0	
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	300.0	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	300.0	
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	300.0	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	300.0	
MB 550-274923/2	Method Blank	Total/NA	Water	300.0	
LCS 550-274923/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274923/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184129-A-2 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-184129-A-2 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 274979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	300.0	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	300.0	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	300.0	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	300.0	
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	300.0	
MB 550-274979/2	Method Blank	Total/NA	Water	300.0	
LCS 550-274979/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274979/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184467-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184467-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 274980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	300.0	
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	300.0	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	300.0	
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	300.0	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	300.0	
MB 550-274980/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-274980/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-274980/32	Lab Control Sample Dup	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 274980 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	300.0	
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	300.0	

Metals

Filtration Batch: 274215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-183883-A-2-B MS	Matrix Spike	Dissolved	Water	Filtration	
550-183883-A-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 274289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	245.1	
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	245.1	
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	245.1	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	245.1	
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	245.1	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	245.1	
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	245.1	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	245.1	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	245.1	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	245.1	
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	245.1	
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	245.1	
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	245.1	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	245.1	
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	245.1	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	245.1	
MB 550-274289/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-274289/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-274289/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	245.1	
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	245.1	

Analysis Batch: 274337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	245.1	274289
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	245.1	274289
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	245.1	274289
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	245.1	274289
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	245.1	274289
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	245.1	274289
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	245.1	274289
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	245.1	274289
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	245.1	274289
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	245.1	274289
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	245.1	274289
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	245.1	274289
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	245.1	274289
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	245.1	274289
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	245.1	274289

Metals (Continued)

Analysis Batch: 274337 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	245.1	274289
MB 550-274289/1-A	Method Blank	Total/NA	Water	245.1	274289
LCS 550-274289/2-A	Lab Control Sample	Total/NA	Water	245.1	274289
LCSD 550-274289/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	274289
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	245.1	274289
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	245.1	274289

Prep Batch: 274349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	200.8	
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	200.8	
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	200.8	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	200.8	
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	200.8	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	200.8	
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	200.8	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	200.8	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	200.8	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.8	
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.8	
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	200.8	
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.8	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.8	
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	200.8	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.8	
MB 550-274349/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-274349/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-274349/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	200.8	
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	200.8	

Prep Batch: 274399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	200.7	
550-184150-2	CH-CCR-M55A-0522	Dissolved	Water	200.7	
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	200.7	
550-184150-4	CH-CCR-M71A-0522	Dissolved	Water	200.7	
550-184150-6	CH-CCR-M72M-0522	Dissolved	Water	200.7	
550-184150-8	CH-CCR-M73A-0522	Dissolved	Water	200.7	
550-184150-10	CH-CCR-M74M-0522	Dissolved	Water	200.7	
550-184150-12	CH-CCR-M78A-0522	Dissolved	Water	200.7	
550-184150-14	CH-CCR-M79A-0522	Dissolved	Water	200.7	
550-184150-16	CH-CCR-FD03-0522	Dissolved	Water	200.7	
550-184150-18	CH-CCR-W302-0522	Dissolved	Water	200.7	
550-184150-20	CH-CCR-W304-0522	Dissolved	Water	200.7	
550-184150-22	CH-CCR-W305-0522	Dissolved	Water	200.7	
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	200.7	
550-184150-24	CH-CCR-W307R-0522	Dissolved	Water	200.7	
550-184150-28	CH-CCR-W309-0522	Dissolved	Water	200.7	
550-184150-30	CH-CCR-W314-0522	Dissolved	Water	200.7	
550-184150-32	CH-CCR-FD04-0522	Dissolved	Water	200.7	

Metals (Continued)

Prep Batch: 274399 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-274399/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-274399/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-274399/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	200.7	
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	200.7	
550-184150-24 MS	CH-CCR-W307R-0522	Dissolved	Water	200.7	
550-184150-24 MSD	CH-CCR-W307R-0522	Dissolved	Water	200.7	

Prep Batch: 274401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	200.7	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	200.7	
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	200.7	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	200.7	
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	200.7	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	200.7	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	200.7	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.7	
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.7	
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.7	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.7	
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	200.7	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.7	
MB 550-274401/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-274401/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-274401/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184147-F-3-A MS	Matrix Spike	Total/NA	Water	200.7	
550-184147-F-3-A MS ^2	Matrix Spike	Total/NA	Water	200.7	
550-184147-F-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-184147-F-3-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 274471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-26	CH-CCR-W308-0522	Dissolved	Water	200.7	
MB 550-274471/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-274471/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-274471/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-183883-A-2-B MS	Matrix Spike	Dissolved	Water	200.7	274215
550-183883-A-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	274215

Prep Batch: 274480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-2	CH-CCR-M55A-0522	Dissolved	Water	200.8	
550-184150-4	CH-CCR-M71A-0522	Dissolved	Water	200.8	
550-184150-6	CH-CCR-M72M-0522	Dissolved	Water	200.8	
550-184150-8	CH-CCR-M73A-0522	Dissolved	Water	200.8	
550-184150-10	CH-CCR-M74M-0522	Dissolved	Water	200.8	
550-184150-12	CH-CCR-M78A-0522	Dissolved	Water	200.8	
550-184150-14	CH-CCR-M79A-0522	Dissolved	Water	200.8	
550-184150-16	CH-CCR-FD03-0522	Dissolved	Water	200.8	
550-184150-18	CH-CCR-W302-0522	Dissolved	Water	200.8	

Metals (Continued)

Prep Batch: 274480 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-20	CH-CCR-W304-0522	Dissolved	Water	200.8	
550-184150-22	CH-CCR-W305-0522	Dissolved	Water	200.8	
550-184150-24	CH-CCR-W307R-0522	Dissolved	Water	200.8	
550-184150-26	CH-CCR-W308-0522	Dissolved	Water	200.8	
550-184150-28	CH-CCR-W309-0522	Dissolved	Water	200.8	
550-184150-30	CH-CCR-W314-0522	Dissolved	Water	200.8	
550-184150-32	CH-CCR-FD04-0522	Dissolved	Water	200.8	
MB 550-274480/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-274480/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-274480/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184150-24 MS	CH-CCR-W307R-0522	Dissolved	Water	200.8	
550-184150-24 MSD	CH-CCR-W307R-0522	Dissolved	Water	200.8	

Analysis Batch: 274611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	200.8 LL	274349
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	200.8 LL	274349
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	200.8 LL	274349
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	200.8 LL	274349
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	200.8 LL	274349
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	200.8 LL	274349
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	200.8 LL	274349
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	200.8 LL	274349
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.8 LL	274349
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.8 LL	274349
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	200.8 LL	274349
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.8 LL	274349
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.8 LL	274349
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	200.8 LL	274349
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.8 LL	274349
MB 550-274349/1-A	Method Blank	Total/NA	Water	200.8 LL	274349
LCS 550-274349/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	274349
LCSD 550-274349/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	274349
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	200.8 LL	274349
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	200.8 LL	274349

Analysis Batch: 274622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-2	CH-CCR-M55A-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-4	CH-CCR-M71A-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-8	CH-CCR-M73A-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-10	CH-CCR-M74M-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-12	CH-CCR-M78A-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-14	CH-CCR-M79A-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-16	CH-CCR-FD03-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-18	CH-CCR-W302-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-20	CH-CCR-W304-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-22	CH-CCR-W305-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	274399

Metals (Continued)

Analysis Batch: 274622 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-24	CH-CCR-W307R-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-28	CH-CCR-W309-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-30	CH-CCR-W314-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-32	CH-CCR-FD04-0522	Dissolved	Water	200.7 Rev 4.4	274399
MB 550-274399/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	274399
LCS 550-274399/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	274399
LCSD 550-274399/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-24 MS	CH-CCR-W307R-0522	Dissolved	Water	200.7 Rev 4.4	274399
550-184150-24 MSD	CH-CCR-W307R-0522	Dissolved	Water	200.7 Rev 4.4	274399

Analysis Batch: 274623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	274401
MB 550-274401/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	274401
LCS 550-274401/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	274401
LCSD 550-274401/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-F-3-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-F-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	274401

Analysis Batch: 274734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	200.8 LL	274349
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	200.8 LL	274349
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	200.8 LL	274349
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	200.8 LL	274349
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	200.8 LL	274349
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	200.8 LL	274349
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	200.8 LL	274349
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	200.8 LL	274349
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	200.8 LL	274349
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.8 LL	274349
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.8 LL	274349
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	200.8 LL	274349
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.8 LL	274349
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.8 LL	274349
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	200.8 LL	274349
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.8 LL	274349
MB 550-274349/1-A	Method Blank	Total/NA	Water	200.8 LL	274349

Metals (Continued)

Analysis Batch: 274734 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-274349/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	274349
LCS 550-274349/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	274349
LCSD 550-274349/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	274349
LCSD 550-274349/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	274349
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	200.8 LL	274349
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	200.8 LL	274349

Analysis Batch: 274739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-2	CH-CCR-M55A-0522	Dissolved	Water	200.8 LL	274480
550-184150-4	CH-CCR-M71A-0522	Dissolved	Water	200.8 LL	274480
550-184150-8	CH-CCR-M73A-0522	Dissolved	Water	200.8 LL	274480
550-184150-10	CH-CCR-M74M-0522	Dissolved	Water	200.8 LL	274480
550-184150-12	CH-CCR-M78A-0522	Dissolved	Water	200.8 LL	274480
550-184150-14	CH-CCR-M79A-0522	Dissolved	Water	200.8 LL	274480
550-184150-16	CH-CCR-FD03-0522	Dissolved	Water	200.8 LL	274480
550-184150-18	CH-CCR-W302-0522	Dissolved	Water	200.8 LL	274480
550-184150-24	CH-CCR-W307R-0522	Dissolved	Water	200.8 LL	274480
MB 550-274480/1-A	Method Blank	Total/NA	Water	200.8 LL	274480
LCS 550-274480/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	274480
LCSD 550-274480/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	274480
550-184150-24 MS	CH-CCR-W307R-0522	Dissolved	Water	200.8 LL	274480
550-184150-24 MSD	CH-CCR-W307R-0522	Dissolved	Water	200.8 LL	274480

Analysis Batch: 274759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	274399
MB 550-274399/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	274399
LCS 550-274399/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	274399
LCSD 550-274399/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	274399
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	274399

Analysis Batch: 274760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	200.7 Rev 4.4	274401

Metals (Continued)

Analysis Batch: 274760 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	274401
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	274401
MB 550-274401/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	274401
LCS 550-274401/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	274401
LCSD 550-274401/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-F-3-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-F-3-A MS ^2	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-F-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	274401
550-184147-F-3-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	274401

Analysis Batch: 274762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-26	CH-CCR-W308-0522	Dissolved	Water	200.7 Rev 4.4	274471
MB 550-274471/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	274471
LCS 550-274471/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	274471
LCSD 550-274471/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	274471
550-183883-A-2-B MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	274471
550-183883-A-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	274471

Analysis Batch: 275116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	200.7 Rev 4.4	274401

Analysis Batch: 275230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	200.8 LL	274349
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	200.8 LL	274349
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	200.8 LL	274349
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	200.8 LL	274349
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	200.8 LL	274349
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	200.8 LL	274349
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.8 LL	274349
MB 550-274349/1-A	Method Blank	Total/NA	Water	200.8 LL	274349
LCS 550-274349/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	274349
LCSD 550-274349/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	274349
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	200.8 LL	274349
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	200.8 LL	274349

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Metals

Analysis Batch: 275231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-20	CH-CCR-W304-0522	Dissolved	Water	200.8 LL	274480
550-184150-22	CH-CCR-W305-0522	Dissolved	Water	200.8 LL	274480
550-184150-26	CH-CCR-W308-0522	Dissolved	Water	200.8 LL	274480
550-184150-28	CH-CCR-W309-0522	Dissolved	Water	200.8 LL	274480
550-184150-30	CH-CCR-W314-0522	Dissolved	Water	200.8 LL	274480
550-184150-32	CH-CCR-FD04-0522	Dissolved	Water	200.8 LL	274480

Analysis Batch: 275338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	200.8 LL	274349
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	200.8 LL	274349
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	200.8 LL	274349
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	200.8 LL	274349
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.8 LL	274349
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.8 LL	274349
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.8 LL	274349
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	200.8 LL	274349
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.8 LL	274349

Analysis Batch: 275341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-20	CH-CCR-W304-0522	Dissolved	Water	200.8 LL	274480
550-184150-22	CH-CCR-W305-0522	Dissolved	Water	200.8 LL	274480
550-184150-26	CH-CCR-W308-0522	Dissolved	Water	200.8 LL	274480
550-184150-28	CH-CCR-W309-0522	Dissolved	Water	200.8 LL	274480
550-184150-30	CH-CCR-W314-0522	Dissolved	Water	200.8 LL	274480
550-184150-32	CH-CCR-FD04-0522	Dissolved	Water	200.8 LL	274480

Analysis Batch: 275418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-6	CH-CCR-M72M-0522	Dissolved	Water	200.8 LL	274480

Analysis Batch: 275425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.8 LL	274349
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.8 LL	274349
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.8 LL	274349
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.8 LL	274349
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	200.8 LL	274349
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.8 LL	274349

Analysis Batch: 275555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-6	CH-CCR-M72M-0522	Dissolved	Water	200.7 Rev 4.4	274399

Prep Batch: 576005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	200.7	
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	200.7	
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	200.7	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 576005 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	200.7	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	200.7	
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	200.7	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	200.7	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	200.7	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.7	
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.7	
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	200.7	
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.7	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.7	
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	200.7	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.7	
MB 280-576005/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-576005/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	200.7	
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	200.7	

Analysis Batch: 576245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	576005
MB 280-576005/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	576005
LCS 280-576005/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	576005
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	200.7 Rev 4.4	576005

General Chemistry

Analysis Batch: 274273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	SM 2540C	
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	SM 2540C	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	SM 2540C	
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	SM 2540C	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	SM 2540C	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	SM 2540C	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 274273 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	SM 2540C	
MB 550-274273/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-274273/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-274273/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184150-3 DU	CH-CCR-M71A-0522	Total/NA	Water	SM 2540C	

Analysis Batch: 274286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	SM 2540C	
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	SM 2540C	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	SM 2540C	
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	SM 2540C	
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	SM 2540C	
MB 550-274286/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-274286/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-274286/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-183973-F-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 274292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	SM 2540C	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	SM 2540C	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	SM 2540C	
MB 550-274292/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-274292/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-274292/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184057-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 274309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	350.1	
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	350.1	
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	350.1	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	350.1	
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	350.1	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	350.1	
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	350.1	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	350.1	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	350.1	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	350.1	
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	350.1	
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	350.1	
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	350.1	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	350.1	
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	350.1	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	350.1	
MB 550-274309/21	Method Blank	Total/NA	Water	350.1	
LCS 550-274309/22	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-274309/23	Lab Control Sample Dup	Total/NA	Water	350.1	
550-184150-1 MS	CH-CCR-M55A-0522	Total/NA	Water	350.1	
550-184150-1 MSD	CH-CCR-M55A-0522	Total/NA	Water	350.1	

General Chemistry (Continued)

Analysis Batch: 274309 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-23 MS	CH-CCR-W307R-0522	Total/NA	Water	350.1	
550-184150-23 MSD	CH-CCR-W307R-0522	Total/NA	Water	350.1	

Analysis Batch: 274367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-2	CH-CCR-M55A-0522	Dissolved	Water	SM 5310B	
550-184150-4	CH-CCR-M71A-0522	Dissolved	Water	SM 5310B	
550-184150-6	CH-CCR-M72M-0522	Dissolved	Water	SM 5310B	
550-184150-8	CH-CCR-M73A-0522	Dissolved	Water	SM 5310B	
550-184150-10	CH-CCR-M74M-0522	Dissolved	Water	SM 5310B	
550-184150-12	CH-CCR-M78A-0522	Dissolved	Water	SM 5310B	
550-184150-14	CH-CCR-M79A-0522	Dissolved	Water	SM 5310B	
550-184150-16	CH-CCR-FD03-0522	Dissolved	Water	SM 5310B	
550-184150-18	CH-CCR-W302-0522	Dissolved	Water	SM 5310B	
550-184150-20	CH-CCR-W304-0522	Dissolved	Water	SM 5310B	
550-184150-22	CH-CCR-W305-0522	Dissolved	Water	SM 5310B	
550-184150-24	CH-CCR-W307R-0522	Dissolved	Water	SM 5310B	
550-184150-26	CH-CCR-W308-0522	Dissolved	Water	SM 5310B	
550-184150-28	CH-CCR-W309-0522	Dissolved	Water	SM 5310B	
550-184150-30	CH-CCR-W314-0522	Dissolved	Water	SM 5310B	
550-184150-32	CH-CCR-FD04-0522	Dissolved	Water	SM 5310B	
MB 550-274367/4	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-274367/5	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-274367/6	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-184150-24 MS	CH-CCR-W307R-0522	Dissolved	Water	SM 5310B	
550-184150-24 MSD	CH-CCR-W307R-0522	Dissolved	Water	SM 5310B	

Analysis Batch: 274630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	SM 2320B	
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	SM 2320B	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	SM 2320B	
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	SM 2320B	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	SM 2320B	
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	SM 2320B	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	SM 2320B	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	SM 2320B	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	SM 2320B	
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	SM 2320B	
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	SM 2320B	
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	SM 2320B	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	SM 2320B	
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	SM 2320B	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	SM 2320B	
MB 550-274630/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-274630/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-274630/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-184091-K-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-184177-A-1 DU	Duplicate	Total/NA	Water	SM 2320B	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

General Chemistry

Analysis Batch: 274862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184150-1	CH-CCR-M55A-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-3	CH-CCR-M71A-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-5	CH-CCR-M72M-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-7	CH-CCR-M73A-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-9	CH-CCR-M74M-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-11	CH-CCR-M78A-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-13	CH-CCR-M79A-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-15	CH-CCR-FD03-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-17	CH-CCR-W302-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-19	CH-CCR-W304-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-21	CH-CCR-W305-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-23	CH-CCR-W307R-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-25	CH-CCR-W308-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-27	CH-CCR-W309-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-29	CH-CCR-W314-0522	Total/NA	Water	SM 4500 H+ B	
550-184150-31	CH-CCR-FD04-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-274862/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-274862/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-274862/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184147-A-5 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-184150-19 DU	CH-CCR-W304-0522	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M55A-0522

Lab Sample ID: 550-184150-1
Date Collected: 05/12/22 12:00
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274719	05/20/22 07:34	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274719	05/20/22 08:29	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274923	05/21/22 20:44	RDC	TAL PHX
Total/NA	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:39	MGM	TAL PHX
Total/NA	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274759	05/19/22 15:14	ARE	TAL PHX
Total/NA	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274759	05/19/22 15:25	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 18:14	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:12	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 13:34	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275230	05/25/22 16:55	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 18:54	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 13:39	MAN	TAL PHX
Total/NA	Analysis	SM 2540C		1	274286		CHS	TAL PHX
					(Start)	05/16/22 14:04		
					(End)	05/17/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-M55A-0522

Lab Sample ID: 550-184150-2
Date Collected: 05/12/22 12:00
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 18:57	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	274739	05/19/22 15:06	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 17:09	MEG	TAL PHX

Client Sample ID: CH-CCR-M71A-0522

Lab Sample ID: 550-184150-3
Date Collected: 05/10/22 15:55
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	274923	05/21/22 21:12	RDC	TAL PHX
Total/NA	Analysis	300.0		2	274723	05/19/22 21:07	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274723	05/19/22 22:02	AS1	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M71A-0522

Lab Sample ID: 550-184150-3
Date Collected: 05/10/22 15:55
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			274399	05/17/22 13:42	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:41	MGM	TAL PHX
Total/NA	Prep	200.7			274399	05/17/22 13:42	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274759	05/19/22 15:16	ARE	TAL PHX
Total/NA	Prep	200.7			274399	05/17/22 13:42	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274759	05/19/22 15:28	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 18:19	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:14	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 13:36	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275230	05/25/22 16:57	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 18:56	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 13:43	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 12:23	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274273		CHS	TAL PHX
					(Start)	05/16/22 13:10		
					(End)	05/17/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-M71A-0522

Lab Sample ID: 550-184150-4
Date Collected: 05/10/22 15:55
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:00	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	274739	05/19/22 15:08	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 17:22	MEG	TAL PHX

Client Sample ID: CH-CCR-M72M-0522

Lab Sample ID: 550-184150-5
Date Collected: 05/10/22 14:35
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1000	274836	05/20/22 14:34	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274923	05/21/22 23:04	RDC	TAL PHX
Total/NA	Analysis	300.0		2	274723	05/19/22 21:35	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274723	05/19/22 22:30	AS1	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M72M-0522 — Lab Sample ID: 550-184150-5

Date Collected: 05/10/22 14:35
Date Received: 05/13/22 16:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	274760	05/19/22 16:14	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	274760	05/19/22 17:19	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	275116	05/24/22 15:03	MGM	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 18:24	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	274734	05/19/22 13:38	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	275230	05/25/22 16:59	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 18:58	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 13:45	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 12:30	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274273		CHS	TAL PHX
					(Start)	05/16/22 13:10		
					(End)	05/17/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-M72M-0522 — Lab Sample ID: 550-184150-6

Date Collected: 05/10/22 14:35
Date Received: 05/13/22 16:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		2	275555	05/27/22 17:33	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	275418	05/27/22 13:25	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 17:34	MEG	TAL PHX

Client Sample ID: CH-CCR-M73A-0522 — Lab Sample ID: 550-184150-7

Date Collected: 05/11/22 09:11
Date Received: 05/13/22 16:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	274923	05/21/22 23:32	RDC	TAL PHX
Total/NA	Analysis	300.0		2	274723	05/20/22 00:50	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274723	05/20/22 02:42	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:32	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274760	05/19/22 16:16	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M73A-0522

Lab Sample ID: 550-184150-7
Date Collected: 05/11/22 09:11
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:21	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 18:29	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:18	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 13:41	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275230	05/25/22 17:01	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:00	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 13:46	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 12:37	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274273		CHS	TAL PHX
					(Start)	05/16/22 13:10		
					(End)	05/17/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-M73A-0522

Lab Sample ID: 550-184150-8
Date Collected: 05/11/22 09:11
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:05	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	274739	05/19/22 15:12	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 17:45	MEG	TAL PHX

Client Sample ID: CH-CCR-M74M-0522

Lab Sample ID: 550-184150-9
Date Collected: 05/11/22 10:15
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	274923	05/22/22 00:00	RDC	TAL PHX
Total/NA	Analysis	300.0		2	274723	05/20/22 01:18	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274723	05/20/22 03:10	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:34	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	274760	05/19/22 16:18	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:23	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M74M-0522

Lab Sample ID: 550-184150-9
Date Collected: 05/11/22 10:15
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 18:33	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:20	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 13:43	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275230	05/25/22 17:03	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:02	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 13:48	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 12:44	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274273		CHS	TAL PHX
					(Start)	05/16/22 13:10		
					(End)	05/17/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-M74M-0522

Lab Sample ID: 550-184150-10
Date Collected: 05/11/22 10:15
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:08	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	274739	05/19/22 15:15	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 17:57	MEG	TAL PHX

Client Sample ID: CH-CCR-M78A-0522

Lab Sample ID: 550-184150-11
Date Collected: 05/11/22 14:05
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	274923	05/22/22 00:28	RDC	TAL PHX
Total/NA	Analysis	300.0		2	274723	05/20/22 01:46	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274723	05/20/22 03:38	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:37	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274760	05/19/22 16:21	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:26	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 18:37	MAB	TAL DEN

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M78A-0522 — Lab Sample ID: 550-184150-11

Date Collected: 05/11/22 14:05 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:26	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 13:49	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275338	05/26/22 16:07	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:04	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 13:49	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 12:52	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274273		CHS	TAL PHX
					(Start)	05/16/22 13:10		
					(End)	05/17/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-M78A-0522 — Lab Sample ID: 550-184150-12

Date Collected: 05/11/22 14:05 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:10	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	274739	05/19/22 15:17	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 18:09	MEG	TAL PHX

Client Sample ID: CH-CCR-M79A-0522 — Lab Sample ID: 550-184150-13

Date Collected: 05/12/22 14:40 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274723	05/20/22 02:14	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274723	05/20/22 04:06	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274979	05/23/22 20:59	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:39	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274760	05/19/22 16:23	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:28	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 18:42	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:28	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-M79A-0522

Lab Sample ID: 550-184150-13
Date Collected: 05/12/22 14:40
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 13:51	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275338	05/26/22 16:09	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:06	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 13:51	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 12:59	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274286		CHS	TAL PHX
					(Start)	05/16/22 14:04		
					(End)	05/17/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-M79A-0522

Lab Sample ID: 550-184150-14
Date Collected: 05/12/22 14:40
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:13	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	274739	05/19/22 15:19	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 18:19	MEG	TAL PHX

Client Sample ID: CH-CCR-FD03-0522

Lab Sample ID: 550-184150-15
Date Collected: 05/12/22 14:40
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274723	05/20/22 05:57	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274723	05/20/22 06:53	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274979	05/23/22 21:27	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:47	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274760	05/19/22 16:30	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:35	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 19:03	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:30	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 13:53	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-FD03-0522 — Lab Sample ID: 550-184150-15

Date Collected: 05/12/22 14:40 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275338	05/26/22 16:11	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:08	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 13:52	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 14:01	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274286		CHS	TAL PHX
					(Start)	05/16/22 14:04		
					(End)	05/17/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-FD03-0522 — Lab Sample ID: 550-184150-16

Date Collected: 05/12/22 14:40 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:21	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	274739	05/19/22 15:21	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 18:30	MEG	TAL PHX

Client Sample ID: CH-CCR-W302-0522 — Lab Sample ID: 550-184150-17

Date Collected: 05/11/22 14:55 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274723	05/20/22 06:25	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274723	05/20/22 07:21	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274979	05/23/22 21:55	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:50	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274760	05/19/22 16:33	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:37	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 19:08	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:33	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 13:55	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275338	05/26/22 16:13	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W302-0522 — Lab Sample ID: 550-184150-17

Date Collected: 05/11/22 14:55
Date Received: 05/13/22 16:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:09	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 13:54	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 13:38	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274273		CHS	TAL PHX
					(Start)	05/16/22 13:10		
					(End)	05/17/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-W302-0522 — Lab Sample ID: 550-184150-18

Date Collected: 05/11/22 14:55
Date Received: 05/13/22 16:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:23	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	274739	05/19/22 15:23	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 18:42	MEG	TAL PHX

Client Sample ID: CH-CCR-W304-0522 — Lab Sample ID: 550-184150-19

Date Collected: 05/11/22 16:00
Date Received: 05/13/22 16:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274719	05/20/22 08:10	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274719	05/20/22 09:06	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274979	05/23/22 22:23	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:52	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274760	05/19/22 16:47	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:40	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 19:13	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:35	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 14:01	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275338	05/26/22 16:15	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275425	05/27/22 13:31	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W304-0522 — Lab Sample ID: 550-184150-19

Date Collected: 05/11/22 16:00 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:20	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 13:55	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 13:46	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274273		CHS	TAL PHX
					(Start)	05/16/22 13:10		
					(End)	05/17/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-W304-0522 — Lab Sample ID: 550-184150-20

Date Collected: 05/11/22 16:00 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:26	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275231	05/25/22 17:39	ARE	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275341	05/26/22 16:32	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 19:14	MEG	TAL PHX

Client Sample ID: CH-CCR-W305-0522 — Lab Sample ID: 550-184150-21

Date Collected: 05/12/22 15:45 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274721	05/20/22 03:10	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274721	05/20/22 04:34	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274979	05/23/22 22:51	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:55	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274760	05/19/22 16:49	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:42	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 19:17	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:37	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 14:03	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275338	05/26/22 16:17	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W305-0522

Lab Sample ID: 550-184150-21
Date Collected: 05/12/22 15:45
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275425	05/27/22 13:33	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:22	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 14:10	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 13:54	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274286		CHS	TAL PHX
					(Start)	05/16/22 14:04		
					(End)	05/17/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-W305-0522

Lab Sample ID: 550-184150-22
Date Collected: 05/12/22 15:45
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:28	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275231	05/25/22 17:41	ARE	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275341	05/26/22 16:34	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 19:26	MEG	TAL PHX

Client Sample ID: CH-CCR-W307R-0522

Lab Sample ID: 550-184150-23
Date Collected: 05/12/22 09:35
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274719	05/20/22 03:34	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274719	05/20/22 05:06	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274980	05/24/22 01:38	AS1	TAL PHX
Total/NA	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274622	05/18/22 18:55	MGM	TAL PHX
Total/NA	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274759	05/19/22 15:12	ARE	TAL PHX
Total/NA	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274759	05/19/22 15:23	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 19:22	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:10	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 13:32	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W307R-0522 — Lab Sample ID: 550-184150-23

Date Collected: 05/12/22 09:35
Date Received: 05/13/22 16:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275230	05/25/22 16:52	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 18:52	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 14:06	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 14:08	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274286		CHS	TAL PHX
					(Start)	05/16/22 14:04		
					(End)	05/17/22 11:30		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-W307R-0522 — Lab Sample ID: 550-184150-24

Date Collected: 05/12/22 09:35
Date Received: 05/13/22 16:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 18:47	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	274739	05/19/22 15:04	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 16:35	MEG	TAL PHX

Client Sample ID: CH-CCR-W308-0522 — Lab Sample ID: 550-184150-25

Date Collected: 05/12/22 11:11
Date Received: 05/13/22 16:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274721	05/20/22 03:38	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274721	05/20/22 05:02	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274980	05/24/22 03:02	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 20:58	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274760	05/19/22 16:51	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:44	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 19:40	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:39	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 14:06	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275338	05/26/22 16:19	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W308-0522

Lab Sample ID: 550-184150-25
Date Collected: 05/12/22 11:11
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275425	05/27/22 13:35	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:24	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 14:12	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 14:16	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274292		CHS	TAL PHX
					(Start)	05/16/22 15:04		
					(End)	05/17/22 15:00		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-W308-0522

Lab Sample ID: 550-184150-26
Date Collected: 05/12/22 11:11
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274471	05/18/22 06:25	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274762	05/19/22 18:46	ARE	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275231	05/25/22 17:43	ARE	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275341	05/26/22 16:36	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 19:38	MEG	TAL PHX

Client Sample ID: CH-CCR-W309-0522

Lab Sample ID: 550-184150-27
Date Collected: 05/12/22 13:03
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274721	05/20/22 04:06	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274721	05/20/22 05:30	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274980	05/24/22 03:30	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 21:00	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274760	05/19/22 16:54	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:46	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 19:44	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:41	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 14:08	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W309-0522 — Lab Sample ID: 550-184150-27

Date Collected: 05/12/22 13:03 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275230	05/25/22 17:26	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275425	05/27/22 13:37	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:26	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 14:13	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 14:24	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274292		CHS	TAL PHX
					(Start)	05/16/22 15:04		
					(End)	05/17/22 15:00		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-W309-0522 — Lab Sample ID: 550-184150-28

Date Collected: 05/12/22 13:03 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:31	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275231	05/25/22 17:45	ARE	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275341	05/26/22 16:38	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 19:50	MEG	TAL PHX

Client Sample ID: CH-CCR-W314-0522 — Lab Sample ID: 550-184150-29

Date Collected: 05/11/22 11:55 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274721	05/20/22 07:21	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274721	05/20/22 07:49	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274980	05/24/22 03:58	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 21:03	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:49	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 20:06	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:43	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 14:10	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-W314-0522 — Lab Sample ID: 550-184150-29

Date Collected: 05/11/22 11:55 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275338	05/26/22 16:24	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275425	05/27/22 13:39	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:28	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 14:15	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 14:32	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274273		CHS	TAL PHX
					(Start)	05/16/22 13:10		
					(End)	05/17/22 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-W314-0522 — Lab Sample ID: 550-184150-30

Date Collected: 05/11/22 11:55 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:34	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275231	05/25/22 17:47	ARE	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275341	05/26/22 16:40	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 20:02	MEG	TAL PHX

Client Sample ID: CH-CCR-FD04-0522 — Lab Sample ID: 550-184150-31

Date Collected: 05/12/22 09:35 — **Matrix: Water**
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	274719	05/20/22 07:52	AS1	TAL PHX
Total/NA	Analysis	300.0		200	274719	05/20/22 08:47	AS1	TAL PHX
Total/NA	Analysis	300.0		5	274980	05/24/22 04:26	AS1	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274623	05/18/22 21:05	MGM	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	274760	05/19/22 16:56	ARE	TAL PHX
Total/NA	Prep	200.7			274401	05/17/22 14:16	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	274760	05/19/22 17:51	ARE	TAL PHX
Total/NA	Prep	200.7			576005	05/25/22 08:52	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	576245	05/25/22 20:11	MAB	TAL DEN
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274611	05/18/22 19:45	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Client Sample ID: CH-CCR-FD04-0522

Lab Sample ID: 550-184150-31

Date Collected: 05/12/22 09:35
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	274734	05/19/22 14:12	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275338	05/26/22 16:26	ARE	TAL PHX
Total/NA	Prep	200.8			274349	05/17/22 08:03	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275425	05/27/22 13:42	ARE	TAL PHX
Total/NA	Prep	245.1			274289	05/16/22 15:12	SRR	TAL PHX
Total/NA	Analysis	245.1		1	274337	05/16/22 19:30	SRR	TAL PHX
Total/NA	Analysis	350.1		1	274309	05/16/22 14:16	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	274630	05/18/22 14:39	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	274292		CHS	TAL PHX
					(Start)	05/16/22 15:04		
					(End)	05/17/22 15:00		
Total/NA	Analysis	SM 4500 H+ B		1	274862	05/21/22 13:01	CXK	TAL PHX

Client Sample ID: CH-CCR-FD04-0522

Lab Sample ID: 550-184150-32

Date Collected: 05/12/22 09:35
Matrix: Water
Date Received: 05/13/22 16:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			274399	05/17/22 13:41	CXK	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	274622	05/18/22 19:36	MGM	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275231	05/25/22 17:49	ARE	TAL PHX
Dissolved	Prep	200.8			274480	05/18/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	275341	05/26/22 16:42	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	274367	05/14/22 20:14	MEG	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Lithium
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon
SM 5310B		Water	Dissolved Organic Carbon - Duplicate
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Laboratory: Eurofins Denver (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184150-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

184150

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 3 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	SM 2320B (HCO3 Alk. as CaCO3)	Sample Specific Notes:
CH-CCR-M55A-0522 -01 +02	5/12/2022	12:00	G	W	8	*		X			X	X	X	X	X	X	X	X	X	X		"
CH-CCR-MW71A-0522 -03 +04	5/10/22	15:55	G	W	8	*		X			X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-MW72M-0522 -05 +06	5/10/22	14:35	G	W	8	*		X			X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-MW73A-0522 -07 +08	5/11/22	09:11	G	W	8	*		X			X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-MW74M-0522 -09 +10	5/11/22	10:15	G	W	8	*		X			X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-MW78A-0522 -11 +12	5/11/22	14:05	G	W	8	*		X			X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-MW79A-0522 -13 +14	5/12/22	14:40	G	W	8	*		X			X	X	X	X	X	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	1	1	2	3	3	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; *As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'* 0.1°C, 0.1°C, 0.4°C, 0.7°C ICE CBO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WOOD	6:16 5/13/22			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: Eera Dry	Date/Time: 5-13-22 1415

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

550-184150 Chain of Custody

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

184150

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

6/1/2022 (Rev. 1)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 3 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	SM 2320B (HCO3 Alk. as CaCO3)	Sample Specific Notes:
CH-CCR-FD03-0522 -15 + 16	5/12/22	14:40	G	W	8	*	N	X	X			X	X	X	X	X	X	X	X	X	X	Low Flow
CH-CCR-W302-0522 -17 + 18	5/11/2022	14:55	G	W	8	*		X	X			X	X	X	X	X	X	X	X	X	X	"
CH-CCR-W304-0522 -19 + 20	5/11/2022	16:00	G	W	8	*		X	X			X	X	X	X	X	X	X	X	X	X	"
CH-CCR-W305-0522 -21 + 22	5/12/22	15:45	G	W	8	*		X	X			X	X	X	X	X	X	X	X	X	X	"
CH-CCR-W307R-0522 -23 + 24	5/12/2022	9:35	G	W	8	*		X	X			X	X	X	X	X	X	X	X	X	X	"
CH-CCR-W308-0522 -25 + 26	5/12/2022	11:11	G	W	8	*		X	X			X	X	X	X	X	X	X	X	X	X	"
CH-CCR-W309-0522 -27 + 28	5/12/2022	13:03	G	W	8	*		X	X			X	X	X	X	X	X	X	X	X	X	"
CH-CCR-W314-0522 -29 + 30	5/11/2022	11:55	G	W	8	*		X		X		X	X	X	X	X	X	X	X	X		"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	1	1	2	3	3	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'* 0.1°C, 0.1°C, 0.4°C, 0.7°C 106 CPD

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Wood	5/13/22 16:46			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				GEL PAX	5-13-22 1615

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

184150

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	3 of 3 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	SM 2320B (HCO3 Alk. as CaCO3)	Sample Specific Notes
CH-CCR-FD04-0522 -31 + 32	5/12/22	09:35	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	X	Low Flow
CH-CCR-W307R-0522-MS -23 + 24	5/12/22	9:35	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-W307R-0522-SD -23 + 24	5/12/22	09:35	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	X	"
								1	4	4	4	4	4	1	1	2	3	3		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood.	5/13/22 16:46			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EEM DAY	Date/Time: 5-13-22 1615

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-33974.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184150-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 5/26/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M55A-0522 (550-184150-1)	5/12/22	12:00 Arizona		Water			X	1	AZ Sample
CH-CCR-M71A-0522 (550-184150-3)	5/10/22	15:55 Arizona		Water			X	1	AZ Sample
CH-CCR-M72M-0522 (550-184150-5)	5/10/22	14:35 Arizona		Water			X	1	AZ Sample
CH-CCR-M73A-0522 (550-184150-7)	5/11/22	09:11 Arizona		Water			X	1	AZ Sample
CH-CCR-M74M-0522 (550-184150-9)	5/11/22	10:15 Arizona		Water			X	1	AZ Sample
CH-CCR-M78A-0522 (550-184150-11)	5/11/22	14:05 Arizona		Water			X	1	AZ Sample
CH-CCR-M79A-0522 (550-184150-13)	5/12/22	14:40 Arizona		Water			X	1	AZ Sample
CH-CCR-FD03-0522 (550-184150-15)	5/12/22	14:40 Arizona		Water			X	1	AZ Sample
CH-CCR-W302-0522 (550-184150-17)	5/11/22	14:55 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by: [signature]	Date/Time: 5-16-22 14:40 EETSW	Company	Received by: [signature]	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 5/17/220930	Company [signature]
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 2.8 IR12 CF+0.1

Ver: 06/08/2021

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-33974.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184150-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 5/26/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-W304-0522 (550-184150-19)	5/11/22	16:00 Arizona		Water			X	1	AZ Sample
CH-CCR-W305-0522 (550-184150-21)	5/12/22	15:45 Arizona		Water			X	1	AZ Sample
CH-CCR-W307R-0522 (550-184150-23)	5/12/22	09:35 Arizona		Water			X	1	AZ Sample
CH-CCR-W307R-0522 (550-184150-23MS)	5/12/22	09:35 Arizona	MS	Water			X	1	AZ Sample
CH-CCR-W307R-0522 (550-184150-23MSD)	5/12/22	09:35 Arizona	MSD	Water			X	1	AZ Sample
CH-CCR-W308-0522 (550-184150-25)	5/12/22	11:11 Arizona		Water			X	1	AZ Sample
CH-CCR-W309-0522 (550-184150-27)	5/12/22	13:03 Arizona		Water			X	1	AZ Sample
CH-CCR-W314-0522 (550-184150-29)	5/11/22	11:55 Arizona		Water			X	1	AZ Sample
CH-CCR-FD04-0522 (550-184150-31)	5/12/22	09:35 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: [illegible]	Date/Time: 05-16-22 1440 EDT	Company	Received by: FedEx	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [illegible]	Date/Time: 5/17/22 0930	Company: [illegible]
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.8 IR 4 (-0.1)

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184150-1

Login Number: 184150
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184150-1

Login Number: 184150
List Number: 2
Creator: Naylis, Patrick J

List Source: Eurofins Denver
List Creation: 05/17/22 06:47 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184780-1
Laboratory SDG: APS Cholla Power Plant (BAP)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/17/2022 10:29:24 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184780-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184780-1

Comments
No additional comments.

Receipt
The samples were received on 5/27/2022 4:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.4º C.

HPLC/IC
Method 300.0: The following sample was diluted for Nitrate and Nitrite as N due to the abundance of non-target analytes: CH-CCR-MW72M-0522 (550-184780-1). Elevated reporting limits (RLs) have been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Total Organic Carbon (TOC) 550-276614 were outside control limits. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184780-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184780-1	CH-CCR-MW72M-0522	Water	05/27/22 11:42	05/27/22 16:35
550-184780-2	CH-CCR-MW72M-0522	Water	05/27/22 11:42	05/27/22 16:35

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184780-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW72M-0522 — Lab Sample ID: 550-184780-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	38000	D2	2000		mg/L	1000		300.0	Total/NA
Fluoride	1.6	D1	0.80		mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	6.3	D1	2.5		mg/L	50		300.0	Total/NA
Sulfate	1600	D2	400		mg/L	200		300.0	Total/NA
Lithium	4.6		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	7900	D1	20		mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	1100	D1	20		mg/L	10		200.7 Rev 4.4	Total/NA
Manganese	4.6	D1	0.10		mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	110	D1	5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Sodium	14000	D2	10		mg/L	20		200.7 Rev 4.4	Total/NA
Arsenic	0.0092	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Barium	0.17	D2	0.0020		mg/L	4		200.8 LL	Total/NA
Cobalt	0.0053	D2	0.0020		mg/L	4		200.8 LL	Total/NA
Molybdenum	0.021	D2	0.0020		mg/L	4		200.8 LL	Total/NA
Selenium	0.0052	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Thallium	0.0014	D1	0.00040		mg/L	4		200.8 LL	Total/NA
Ammonia	1.1		0.050		mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	30		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	30		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	41000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-MW72M-0522 — Lab Sample ID: 550-184780-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Manganese	4.8	D1	0.050		mg/L	5		200.7 Rev 4.4	Dissolved
Arsenic	0.010	D1	0.0020		mg/L	4		200.8 LL	Dissolved
Cobalt	0.0061	D1	0.0020		mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	0.64	M2 T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.66	M2 T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.64	M2 T5	0.50		mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184780-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW72M-0522

Date Collected: 05/27/22 11:42
Date Received: 05/27/22 16:35

Lab Sample ID: 550-184780-1

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	38000	D2	2000	mg/L			05/31/22 13:56	1000
Fluoride	1.6	D1	0.80	mg/L			05/27/22 21:33	2
Nitrate Nitrite as N	6.3	D1	2.5	mg/L			05/28/22 01:30	50
Sulfate	1600	D2	400	mg/L			05/27/22 22:01	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	D1	0.010	mg/L		05/31/22 13:40	06/02/22 21:28	10
Lithium	4.6		0.020	mg/L		06/13/22 19:03	06/15/22 04:35	1
Boron	ND	D1	0.50	mg/L		05/31/22 13:40	06/02/22 21:28	10
Calcium	7900	D1	20	mg/L		05/31/22 13:40	06/02/22 21:28	10
Iron	ND	D1	1.0	mg/L		05/31/22 13:40	06/02/22 21:28	10
Magnesium	1100	D1	20	mg/L		05/31/22 13:40	06/02/22 21:28	10
Manganese	4.6	D1	0.10	mg/L		05/31/22 13:40	06/02/22 21:28	10
Potassium	110	D1	5.0	mg/L		05/31/22 13:40	06/02/22 21:28	10
Sodium	14000	D2	10	mg/L		05/31/22 13:40	06/06/22 18:24	20

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D2	0.0040	mg/L		06/01/22 08:48	06/07/22 12:43	4
Arsenic	0.0092	D1	0.0020	mg/L		06/01/22 08:48	06/09/22 18:22	4
Barium	0.17	D2	0.0020	mg/L		06/01/22 08:48	06/07/22 12:43	4
Cadmium	ND	D2	0.00040	mg/L		06/01/22 08:48	06/07/22 12:43	4
Chromium	ND	D2	0.0040	mg/L		06/01/22 08:48	06/07/22 12:43	4
Cobalt	0.0053	D2	0.0020	mg/L		06/01/22 08:48	06/07/22 12:43	4
Lead	ND	D2	0.0020	mg/L		06/01/22 08:48	06/07/22 12:43	4
Molybdenum	0.021	D2	0.0020	mg/L		06/01/22 08:48	06/07/22 12:43	4
Selenium	0.0052	D1	0.0020	mg/L		06/01/22 08:48	06/09/22 18:22	4
Thallium	0.0014	D1	0.00040	mg/L		06/01/22 08:48	06/13/22 09:26	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/31/22 15:50	05/31/22 22:24	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.1		0.050	mg/L			05/29/22 12:37	1
Alkalinity as CaCO3	30		6.0	mg/L			06/02/22 19:16	1
Bicarbonate Alkalinity as CaCO3	30		6.0	mg/L			06/02/22 19:16	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			06/02/22 19:16	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			06/02/22 19:16	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			06/02/22 19:16	1
Total Dissolved Solids	41000	D2	1000	mg/L			06/01/22 16:31	1
pH	7.0	H5	1.7	SU			06/01/22 11:37	1
Temperature	12.3	H5	0.1	Degrees C			06/01/22 11:37	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184780-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW72M-0522

Lab Sample ID: 550-184780-2

Date Collected: 05/27/22 11:42
Matrix: Water
Date Received: 05/27/22 16:35

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	D1	0.50		mg/L		06/02/22 08:01	06/07/22 17:47	5
Manganese	**4.8**	**D1**	0.050		mg/L		06/02/22 08:01	06/07/22 17:47	5

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.010**	**D1**	0.0020		mg/L		06/01/22 09:50	06/09/22 18:24	4
Cobalt	**0.0061**	**D1**	0.0020		mg/L		06/01/22 09:50	06/09/22 18:24	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.64**	**M2 T5**	0.50		mg/L			06/10/22 15:11	1
Dissolved Organic Carbon - Duplicate	**0.66**	**M2 T5**	0.50		mg/L			06/10/22 15:11	1
Dissolved Organic Carbon - Quad	**0.64**	**M2 T5**	0.50		mg/L			06/10/22 15:11	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275466/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275466

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			05/27/22 11:19	1
Fluoride	ND		0.40		mg/L			05/27/22 11:19	1
Sulfate	ND		2.0		mg/L			05/27/22 11:19	1

Lab Sample ID: LCS 550-275466/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275466

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.12		mg/L		103	90 - 110		
Sulfate			20.0	20.4		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-275466/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275466

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.11		mg/L		103	90 - 110	0	20
Sulfate			20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184742-B-1 MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275466

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	34	D1	100	145	D1	mg/L		111	80 - 120		
Fluoride	3.0	D1	20.0	24.0	D1	mg/L		105	80 - 120		
Sulfate	3100	E2 D2 M3	100	3130	D2 E2 M3	mg/L		46	80 - 120		

Lab Sample ID: 550-184742-B-1 MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275466

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	34	D1	100	145	D1	mg/L		111	80 - 120	0	20
Fluoride	3.0	D1	20.0	23.7	D1	mg/L		103	80 - 120	1	20
Sulfate	3100	E2 D2 M3	100	3120	D2 E2 M3	mg/L		42	80 - 120	0	20

Lab Sample ID: MB 550-275467/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275467

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.050		mg/L			05/27/22 17:35	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-275467/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275467

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N			8.00	8.10		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-275467/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275467

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N			8.00	8.12		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184775-B-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275467

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate Nitrite as N	2.0		8.00	10.2		mg/L		103	80 - 120		

Lab Sample ID: 550-184775-B-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275467

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	2.0		8.00	10.2		mg/L		103	80 - 120	0	20

Lab Sample ID: MB 550-275595/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			05/31/22 10:52	1
Fluoride	ND		0.40		mg/L			05/31/22 10:52	1
Sulfate	ND		2.0		mg/L			05/31/22 10:52	1

Lab Sample ID: LCS 550-275595/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	21.2		mg/L		106	90 - 110		
Fluoride			4.00	3.97		mg/L		99	90 - 110		
Sulfate			20.0	20.7		mg/L		104	90 - 110		

Lab Sample ID: LCSD 550-275595/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride			4.00	3.99		mg/L		100	90 - 110	0	20
Sulfate			20.0	20.7		mg/L		104	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-184768-E-3 MS ^200 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	ND	D1	4000	4440	D1	mg/L		107	80 - 120
Sulfate	12000	D2	4000	16000	D2	mg/L		103	80 - 120

Lab Sample ID: 550-184768-E-3 MSD ^200 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	ND	D1	4000	4420	D1	mg/L		106	80 - 120	0	20
Sulfate	12000	D2	4000	16000	D2	mg/L		103	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275589/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275781 — **Prep Batch: 275589**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		05/31/22 13:40	06/01/22 18:28	1
Calcium	ND		2.0	mg/L		05/31/22 13:40	06/01/22 18:28	1
Magnesium	ND		2.0	mg/L		05/31/22 13:40	06/01/22 18:28	1

Lab Sample ID: MB 550-275589/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275995 — **Prep Batch: 275589**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/31/22 13:40	06/02/22 20:28	1
Boron	ND		0.050	mg/L		05/31/22 13:40	06/02/22 20:28	1
Calcium	ND		2.0	mg/L		05/31/22 13:40	06/02/22 20:28	1
Iron	ND		0.10	mg/L		05/31/22 13:40	06/02/22 20:28	1
Magnesium	ND		2.0	mg/L		05/31/22 13:40	06/02/22 20:28	1
Manganese	ND		0.010	mg/L		05/31/22 13:40	06/02/22 20:28	1
Potassium	ND		0.50	mg/L		05/31/22 13:40	06/02/22 20:28	1
Sodium	ND		0.50	mg/L		05/31/22 13:40	06/02/22 20:28	1

Lab Sample ID: LCS 550-275589/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275781 — **Prep Batch: 275589**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.947		mg/L		95	85 - 115
Calcium	21.0	19.2		mg/L		91	85 - 115
Magnesium	21.0	19.4		mg/L		92	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-275589/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275995 — **Prep Batch: 275589**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.991		mg/L		99	85 - 115
Boron	1.00	0.970		mg/L		97	85 - 115
Calcium	21.0	20.5		mg/L		98	85 - 115
Iron	1.00	0.935		mg/L		93	85 - 115
Magnesium	21.0	20.3		mg/L		97	85 - 115
Manganese	1.00	0.943		mg/L		94	85 - 115
Potassium	20.0	19.4		mg/L		97	85 - 115
Sodium	20.0	19.6		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-275589/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275781 — **Prep Batch: 275589**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	0.976		mg/L		98	85 - 115	3	20
Calcium	21.0	19.8		mg/L		94	85 - 115	3	20
Magnesium	21.0	20.0		mg/L		95	85 - 115	3	20

Lab Sample ID: LCSD 550-275589/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275995 — **Prep Batch: 275589**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.01		mg/L		101	85 - 115	2	20
Boron	1.00	0.996		mg/L		100	85 - 115	3	20
Calcium	21.0	21.0		mg/L		100	85 - 115	3	20
Iron	1.00	0.962		mg/L		96	85 - 115	3	20
Magnesium	21.0	20.9		mg/L		99	85 - 115	3	20
Manganese	1.00	0.967		mg/L		97	85 - 115	2	20
Potassium	20.0	19.9		mg/L		100	85 - 115	2	20
Sodium	20.0	22.3		mg/L		112	85 - 115	13	20

Lab Sample ID: 550-184692-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275781 — **Prep Batch: 275589**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	4.0		1.00	4.80	M3	mg/L		79	70 - 130
Calcium	370	M3	21.0	372	M3	mg/L		-8	70 - 130

Lab Sample ID: 550-184692-E-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276313 — **Prep Batch: 275589**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	9900	M3	20.0	9350	M3	mg/L		-2628	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184692-E-1-A MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275995 — **Prep Batch: 275589**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.14		mg/L		114	70 - 130
Boron	4.1		1.00	4.91	M3	mg/L		77	70 - 130
Calcium	400	M3	21.0	388	M3	mg/L		-35	70 - 130
Iron	ND		1.00	1.15		mg/L		108	70 - 130
Magnesium	1300	M3	21.0	1210	M3	mg/L		-344	70 - 130
Manganese	ND		1.00	0.921		mg/L		92	70 - 130
Potassium	450	M3	20.0	446	M3	mg/L		-42	70 - 130

Lab Sample ID: 550-184692-E-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275781 — **Prep Batch: 275589**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	4.0		1.00	4.79	M3	mg/L		78	70 - 130	0	20
Calcium	370	M3	21.0	367	M3	mg/L		-32	70 - 130	1	20

Lab Sample ID: 550-184692-E-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276313 — **Prep Batch: 275589**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	9900	M3	20.0	9370	M3	mg/L		-2513	70 - 130	0	20

Lab Sample ID: 550-184692-E-1-B MSD ^2 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275995 — **Prep Batch: 275589**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.16		mg/L		116	70 - 130	2	20
Boron	4.1		1.00	4.95	M3	mg/L		81	70 - 130	1	20
Calcium	400	M3	21.0	392	M3	mg/L		-17	70 - 130	1	20
Iron	ND		1.00	1.15		mg/L		108	70 - 130	0	20
Magnesium	1300	M3	21.0	1210	M3	mg/L		-311	70 - 130	1	20
Manganese	ND		1.00	0.941		mg/L		94	70 - 130	2	20
Potassium	450	M3	20.0	445	M3	mg/L		-47	70 - 130	0	20

Lab Sample ID: MB 550-275772/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276001 — **Prep Batch: 275772**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		06/02/22 08:01	06/03/22 10:08	1
Manganese	ND		0.010	mg/L		06/02/22 08:01	06/03/22 10:08	1

Lab Sample ID: LCS 550-275772/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276001 — **Prep Batch: 275772**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	0.959		mg/L		96	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-275772/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276001 — **Prep Batch: 275772**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	1.00	0.945		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-275772/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276001 — **Prep Batch: 275772**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	1.00	0.957		mg/L		96	85 - 115	0	20
Manganese	1.00	0.950		mg/L		95	85 - 115	1	20

Lab Sample ID: MB 280-577839/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578111 — **Prep Batch: 577839**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020	mg/L		06/13/22 19:03	06/15/22 04:03	1

Lab Sample ID: LCS 280-577839/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578111 — **Prep Batch: 577839**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.942		mg/L		94	90 - 112

Lab Sample ID: LCSD 280-577839/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578132 — **Prep Batch: 577839**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	0.976		mg/L		98	90 - 112	4	20

Lab Sample ID: 280-163328-A-2-E MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578111 — **Prep Batch: 577839**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.021		1.00	0.976		mg/L		96	70 - 130

Lab Sample ID: 280-163328-A-2-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578111 — **Prep Batch: 577839**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.021		1.00	1.01		mg/L		99	70 - 130	4	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-275602/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276001 — **Prep Batch: 275772**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		06/02/22 08:01	06/03/22 10:16	1
Manganese	ND		0.010		mg/L		06/02/22 08:01	06/03/22 10:16	1

Lab Sample ID: 550-183960-A-2-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276001 — **Prep Batch: 275772**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Iron	ND		1.00	0.999		mg/L		100	70 - 130		
Manganese	ND		1.00	0.957		mg/L		95	70 - 130		

Lab Sample ID: 550-183960-A-2-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276001 — **Prep Batch: 275772**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	ND		1.00	0.957		mg/L		96	70 - 130	4	20
Manganese	ND		1.00	0.942		mg/L		93	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-275653/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276207 — **Prep Batch: 275653**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010		mg/L		06/01/22 08:48	06/07/22 11:59	1
Arsenic	ND		0.00050		mg/L		06/01/22 08:48	06/07/22 11:59	1
Barium	ND		0.00050		mg/L		06/01/22 08:48	06/07/22 11:59	1
Cadmium	ND		0.00010		mg/L		06/01/22 08:48	06/07/22 11:59	1
Chromium	ND		0.0010		mg/L		06/01/22 08:48	06/07/22 11:59	1
Cobalt	ND		0.00050		mg/L		06/01/22 08:48	06/07/22 11:59	1
Lead	ND		0.00050		mg/L		06/01/22 08:48	06/07/22 11:59	1
Molybdenum	ND		0.00050		mg/L		06/01/22 08:48	06/07/22 11:59	1
Selenium	ND		0.00050		mg/L		06/01/22 08:48	06/07/22 11:59	1
Thallium	ND		0.00010		mg/L		06/01/22 08:48	06/07/22 11:59	1

Lab Sample ID: LCS 550-275653/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276207 — **Prep Batch: 275653**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			0.100	0.0898		mg/L		90	85 - 115		
Arsenic			0.100	0.0888		mg/L		89	85 - 115		
Barium			0.100	0.101		mg/L		101	85 - 115		
Cadmium			0.100	0.0999		mg/L		100	85 - 115		
Chromium			0.100	0.0913		mg/L		91	85 - 115		
Cobalt			0.100	0.0941		mg/L		94	85 - 115		
Lead			0.100	0.0907		mg/L		91	85 - 115		
Molybdenum			0.100	0.0994		mg/L		99	85 - 115		

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-275653/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276207 — **Prep Batch: 275653**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.0912		mg/L		91	85 - 115
Thallium	0.100	0.0913		mg/L		91	85 - 115

Lab Sample ID: LCSD 550-275653/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276207 — **Prep Batch: 275653**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0873		mg/L		87	85 - 115	3	20
Arsenic	0.100	0.0909		mg/L		91	85 - 115	2	20
Barium	0.100	0.0996		mg/L		100	85 - 115	2	20
Cadmium	0.100	0.0984		mg/L		98	85 - 115	1	20
Chromium	0.100	0.0921		mg/L		92	85 - 115	1	20
Cobalt	0.100	0.0957		mg/L		96	85 - 115	2	20
Lead	0.100	0.0922		mg/L		92	85 - 115	2	20
Molybdenum	0.100	0.0968		mg/L		97	85 - 115	3	20
Selenium	0.100	0.0927		mg/L		93	85 - 115	2	20
Thallium	0.100	0.0915		mg/L		91	85 - 115	0	20

Lab Sample ID: 550-184828-C-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276207 — **Prep Batch: 275653**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.0908		mg/L		90	70 - 130
Arsenic	0.0025		0.100	0.0970		mg/L		95	70 - 130
Barium	0.11		0.100	0.210		mg/L		98	70 - 130
Cadmium	ND		0.100	0.0986		mg/L		99	70 - 130
Chromium	ND		0.100	0.0933		mg/L		93	70 - 130
Cobalt	ND		0.100	0.0952		mg/L		95	70 - 130
Lead	ND		0.100	0.0889		mg/L		89	70 - 130
Molybdenum	0.0050		0.100	0.106		mg/L		101	70 - 130
Selenium	0.0019		0.100	0.0957		mg/L		94	70 - 130
Thallium	0.00052		0.100	0.0916		mg/L		91	70 - 130

Lab Sample ID: 550-184828-C-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276207 — **Prep Batch: 275653**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.0895		mg/L		89	70 - 130	2	20
Arsenic	0.0025		0.100	0.0946		mg/L		92	70 - 130	3	20
Barium	0.11		0.100	0.205		mg/L		93	70 - 130	2	20
Cadmium	ND		0.100	0.0970		mg/L		97	70 - 130	2	20
Chromium	ND		0.100	0.0892		mg/L		89	70 - 130	4	20
Cobalt	ND		0.100	0.0918		mg/L		92	70 - 130	4	20
Lead	ND		0.100	0.0866		mg/L		87	70 - 130	3	20
Molybdenum	0.0050		0.100	0.105		mg/L		100	70 - 130	1	20
Selenium	0.0019		0.100	0.0911		mg/L		89	70 - 130	5	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184828-C-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276207 — **Prep Batch: 275653**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.00052		0.100	0.0856		mg/L		85	70 - 130	7	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-275611/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275642 — **Prep Batch: 275611**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020		mg/L		05/31/22 15:50	05/31/22 21:46	1

Lab Sample ID: LCS 550-275611/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275642 — **Prep Batch: 275611**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg			0.00500	0.00464		mg/L		93	85 - 115		

Lab Sample ID: LCSD 550-275611/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275642 — **Prep Batch: 275611**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00457		mg/L		91	85 - 115	2	20

Lab Sample ID: 550-184727-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275642 — **Prep Batch: 275611**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg	ND		0.00500	0.00455		mg/L		91	70 - 130		

Lab Sample ID: 550-184727-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275642 — **Prep Batch: 275611**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	ND		0.00500	0.00468		mg/L		94	70 - 130	3	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-275515/21 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275515

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050		mg/L			05/29/22 11:15	1

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: LCS 550-275515/22 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275515

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia			1.00	1.02		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-275515/23 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275515

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia			1.00	1.01		mg/L		101	90 - 110	1	20

Lab Sample ID: 550-184702-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275515

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Ammonia	1.5		1.00	2.42	E2	mg/L		95	90 - 110		

Lab Sample ID: 550-184702-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275515

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.5		1.00	2.51	E2	mg/L		103	90 - 110	4	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-275923/26 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275923

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			06/02/22 18:44	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			06/02/22 18:44	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			06/02/22 18:44	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			06/02/22 18:44	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			06/02/22 18:44	1

Lab Sample ID: LCS 550-275923/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275923

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	249		mg/L		100	90 - 110		

Lab Sample ID: LCSD 550-275923/38 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275923

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	248		mg/L		99	90 - 110	0	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-184880-Q-5 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275923

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	190			188		mg/L				0.3	20
Bicarbonate Alkalinity as CaCO3	190			188		mg/L				0.3	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275734/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			06/01/22 16:31	1

Lab Sample ID: LCS 550-275734/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1070		mg/L		107	90 - 110		

Lab Sample ID: LCSD 550-275734/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1060		mg/L		106	90 - 110	1	10

Lab Sample ID: 550-184859-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1240		mg/L				4	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-275711/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275711

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.5	98.5 - 101.5		

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-275711/23 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275711

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: 550-183599-B-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275711

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.0	H5		8.1	H5	SU				0.4	5
Temperature	13.9	H5		12.0	H5	Degrees C				15	

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-276614/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276614

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50		mg/L			06/10/22 14:37	1
Dissolved Organic Carbon - Duplicate	ND		0.50		mg/L			06/10/22 14:37	1
Dissolved Organic Carbon - Quad	ND		0.50		mg/L			06/10/22 14:37	1

Lab Sample ID: LCS 550-276614/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276614

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Dissolved Organic Carbon			20.0	19.5		mg/L		97	90 - 110		
Dissolved Organic Carbon - Duplicate			20.0	19.5		mg/L		97	90 - 110		
Dissolved Organic Carbon - Quad			20.0	19.5		mg/L		97	90 - 110		

Lab Sample ID: LCSD 550-276614/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276614

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon			20.0	19.8		mg/L		99	90 - 110	2	20
Dissolved Organic Carbon - Duplicate			20.0	19.8		mg/L		99	90 - 110	2	20
Dissolved Organic Carbon - Quad			20.0	19.8		mg/L		99	90 - 110	2	20

Lab Sample ID: 550-184780-2 MS — **Client Sample ID: CH-CCR-MW72M-0522**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276614

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Dissolved Organic Carbon	0.64	T5 M2	20.0	15.5	M2	mg/L		74	90 - 110		

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-184780-2 MS — **Client Sample ID: CH-CCR-MW72M-0522**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276614

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Dissolved Organic Carbon - Duplicate	0.66	T5 M2	20.0	15.5	M2	mg/L		74	90 - 110		
Dissolved Organic Carbon - Quad	0.64	T5 M2	20.0	15.5	M2	mg/L		74	90 - 110		

Lab Sample ID: 550-184780-2 MSD — **Client Sample ID: CH-CCR-MW72M-0522**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276614

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.64	T5 M2	20.0	14.9	M2	mg/L		71	90 - 110	4	20
Dissolved Organic Carbon - Duplicate	0.66	T5 M2	20.0	14.9	M2	mg/L		71	90 - 110	4	20
Dissolved Organic Carbon - Quad	0.64	T5 M2	20.0	14.9	M2	mg/L		71	90 - 110	4	20

Lab Sample ID: 550-184780-2 DU — **Client Sample ID: CH-CCR-MW72M-0522**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276614

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Dissolved Organic Carbon	0.64	T5 M2		0.559		mg/L				14	20
Dissolved Organic Carbon - Duplicate	0.66	T5 M2		0.542		mg/L				19	20
Dissolved Organic Carbon - Quad	0.64	T5 M2		0.559		mg/L				14	20

HPLC/IC

Analysis Batch: 275466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	300.0	
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	300.0	
MB 550-275466/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275466/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275466/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184742-B-1 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-184742-B-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	300.0	
MB 550-275467/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275467/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275467/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184775-B-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-184775-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	300.0	
MB 550-275595/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275595/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275595/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184768-E-3 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-184768-E-3 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 275589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	200.7	
MB 550-275589/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275589/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275589/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184692-E-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-184692-E-1-A MS ^2	Matrix Spike	Total/NA	Water	200.7	
550-184692-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-184692-E-1-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7	

Filtration Batch: 275602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275602/1-B	Method Blank	Dissolved	Water	Filtration	
550-183960-A-2-D MS	Matrix Spike	Dissolved	Water	Filtration	
550-183960-A-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 275611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	245.1	
MB 550-275611/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-275611/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-275611/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 275611 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184727-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-184727-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 275642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	245.1	275611
MB 550-275611/1-A	Method Blank	Total/NA	Water	245.1	275611
LCS 550-275611/2-A	Lab Control Sample	Total/NA	Water	245.1	275611
LCSD 550-275611/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	275611
550-184727-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	275611
550-184727-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	275611

Prep Batch: 275653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	200.8	
550-184780-2	CH-CCR-MW72M-0522	Dissolved	Water	200.8	
MB 550-275653/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275653/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275653/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184828-C-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-184828-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 275772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-2	CH-CCR-MW72M-0522	Dissolved	Water	200.7	
MB 550-275602/1-B	Method Blank	Dissolved	Water	200.7	275602
MB 550-275772/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275772/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275772/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-183960-A-2-D MS	Matrix Spike	Dissolved	Water	200.7	275602
550-183960-A-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	275602

Analysis Batch: 275781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275589/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275589
LCS 550-275589/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275589
LCSD 550-275589/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275589
550-184692-E-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275589
550-184692-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275589

Analysis Batch: 275995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	200.7 Rev 4.4	275589
MB 550-275589/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275589
LCS 550-275589/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275589
LCSD 550-275589/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275589
550-184692-E-1-A MS ^2	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275589
550-184692-E-1-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275589

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184780-1
SDG: APS Cholla Power Plant (BAP)

Metals

Analysis Batch: 276001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275602/1-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	275772
MB 550-275772/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275772
LCS 550-275772/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275772
LCSD 550-275772/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275772
550-183960-A-2-D MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	275772
550-183960-A-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	275772

Analysis Batch: 276162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	200.7 Rev 4.4	275589

Analysis Batch: 276207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	200.8 LL	275653
MB 550-275653/1-A	Method Blank	Total/NA	Water	200.8 LL	275653
LCS 550-275653/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275653
LCSD 550-275653/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275653
550-184828-C-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	275653
550-184828-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275653

Analysis Batch: 276313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184692-E-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275589
550-184692-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275589

Analysis Batch: 276315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-2	CH-CCR-MW72M-0522	Dissolved	Water	200.7 Rev 4.4	275772

Analysis Batch: 276680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	200.8 LL	275653
550-184780-2	CH-CCR-MW72M-0522	Dissolved	Water	200.8 LL	275653

Analysis Batch: 276701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	200.8 LL	275653

Prep Batch: 577839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	200.7	
MB 280-577839/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577839/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-577839/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-163328-A-2-E MS	Matrix Spike	Total/NA	Water	200.7	
280-163328-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 578111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	200.7 Rev 4.4	577839
MB 280-577839/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577839

Metals (Continued)

Analysis Batch: 578111 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-577839/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577839
280-163328-A-2-E MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577839
280-163328-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577839

Analysis Batch: 578132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 280-577839/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	577839

General Chemistry

Analysis Batch: 275515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	350.1	
MB 550-275515/21	Method Blank	Total/NA	Water	350.1	
LCS 550-275515/22	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-275515/23	Lab Control Sample Dup	Total/NA	Water	350.1	
550-184702-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-184702-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 275711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275711/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275711/23	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-183599-B-2 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 275734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	SM 2540C	
MB 550-275734/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275734/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275734/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184859-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-1	CH-CCR-MW72M-0522	Total/NA	Water	SM 2320B	
MB 550-275923/26	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-275923/25	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-275923/38	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-184880-Q-5 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 276614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184780-2	CH-CCR-MW72M-0522	Dissolved	Water	SM 5310B	
MB 550-276614/4	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-276614/5	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-276614/6	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-184780-2 MS	CH-CCR-MW72M-0522	Dissolved	Water	SM 5310B	
550-184780-2 MSD	CH-CCR-MW72M-0522	Dissolved	Water	SM 5310B	
550-184780-2 DU	CH-CCR-MW72M-0522	Dissolved	Water	SM 5310B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184780-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW72M-0522

Lab Sample ID: 550-184780-1

Date Collected: 05/27/22 11:42
Matrix: Water
Date Received: 05/27/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1000	275595	05/31/22 13:56	AS1	TAL PHX
Total/NA	Analysis	300.0		2	275466	05/27/22 21:33	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275466	05/27/22 22:01	AS1	TAL PHX
Total/NA	Analysis	300.0		50	275467	05/28/22 01:30	AS1	TAL PHX
Total/NA	Prep	200.7			275589	05/31/22 13:40	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	275995	06/02/22 21:28	MGM	TAL PHX
Total/NA	Prep	200.7			275589	05/31/22 13:40	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	276162	06/06/22 18:24	MGM	TAL PHX
Total/NA	Prep	200.7			577839	06/13/22 19:03	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578111	06/15/22 04:35	LMT	TAL DEN
Total/NA	Prep	200.8			275653	06/01/22 08:48	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276207	06/07/22 12:43	ARE	TAL PHX
Total/NA	Prep	200.8			275653	06/01/22 08:48	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276680	06/09/22 18:22	ARE	TAL PHX
Total/NA	Prep	200.8			275653	06/01/22 08:48	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276701	06/13/22 09:26	ARE	TAL PHX
Total/NA	Prep	245.1			275611	05/31/22 15:50	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275642	05/31/22 22:24	SRR	TAL PHX
Total/NA	Analysis	350.1		1	275515	05/29/22 12:37	MAN	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 19:16	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275734		CHS	TAL PHX
					(Start)	06/01/22 16:31		
					(End)	06/02/22 13:15		
Total/NA	Analysis	SM 4500 H+ B		1	275711	06/01/22 11:37	CXK	TAL PHX

Client Sample ID: CH-CCR-MW72M-0522

Lab Sample ID: 550-184780-2

Date Collected: 05/27/22 11:42
Matrix: Water
Date Received: 05/27/22 16:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			275772	06/02/22 08:01	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		5	276315	06/07/22 17:47	MGM	TAL PHX
Dissolved	Prep	200.8			275653	06/01/22 09:50	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	276680	06/09/22 18:24	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	276614	06/10/22 15:11	MEG	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184780-1
SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon
SM 5310B		Water	Dissolved Organic Carbon - Duplicate
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Laboratory: Eurofins Denver (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wyoming (UST)	A2LA	2907.01	10-31-22

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184780-1
SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

184780

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

550-184780 Chain of Custody

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505) 598-8781	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300590307	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	SM 2320B (HCO3 Alk. as CaCO3)	Sample Specific Notes:
CH-CCR-MW72M-0522 -1 +2	5/27/22	11:42	G	W	8	*		X			X	X	X	X	X	X	X	X	X	X	X	Low Flow
								1	4	4	4	4	4	4	4	1	1	2	3	3	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; *As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.4°C ICE CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	[signature]	05/27/22; 16:35			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: [illegible]	Date/Time: 5-27-22 1635

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34125.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184780-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/13/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-MW72M-0522 (550-184780-1)	5/27/22	11:42 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: Eric 05-31-22	Date/Time: 13:45	Company: EETSW	Received by: Fedex	Date/Time:	Company
Relinquished by: Fedex	Date/Time:	Company	Received by:	Date/Time: 6/1/22 945	Company EETSW
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: ☒ Yes ☐ No	Custody Seal No.: 1940833		Cooler Temperature(s) °C and Other Remarks: 0.5 IR/L CF-0.1		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184780-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 184780
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184780-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 184780
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 06/01/22 04:59 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184623-1
Laboratory SDG: APS Four Corners Power Plant (Multiunit)
Client Project/Site: CCR Groundwater Monitoring
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/16/2022 4:18:39 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184623-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184623-1

Comments
The report being provided is a revision of the original report sent on 6/14/2022. The report (revision 1) is being revised due to: Methods reported to RL.

No additional comments.

Receipt
The samples were received on 5/25/2022 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.2º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix: FC-CCR-MW87-0522 (550-184623-2) and FC-CCR-FD04-0522 (550-184623-3). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix: FC-CCR-MW87-0522 (550-184623-2) and FC-CCR-FD04-0522 (550-184623-3). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: FC-CCR-MW08-0522 (550-184623-1), FC-CCR-MW87-0522 (550-184623-2), FC-CCR-FD04-0522 (550-184623-3), FC-CCR-MW52-0522 (550-184623-4), FC-CCR-MW61-0522 (550-184623-5) and FC-CCR-MW75-0522 (550-184623-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184623-1	FC-CCR-MW08-0522	Water	05/24/22 09:28	05/25/22 14:00
550-184623-2	FC-CCR-MW87-0522	Water	05/24/22 11:55	05/25/22 14:00
550-184623-3	FC-CCR-FD04-0522	Water	05/24/22 17:00	05/25/22 14:00
550-184623-4	FC-CCR-MW52-0522	Water	05/22/22 13:08	05/25/22 14:00
550-184623-5	FC-CCR-MW61-0522	Water	05/22/22 14:02	05/25/22 14:00
550-184623-6	FC-CCR-MW75-0522	Water	05/22/22 15:06	05/25/22 14:00
550-184623-7	FC-CCR-FD03-0522	Water	05/22/22 13:08	05/25/22 14:00

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW08-0522 — Lab Sample ID: 550-184623-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400		mg/L	200		300.0	Total/NA
Sulfate	10000	D2	400		mg/L	200		300.0	Total/NA
Lithium	1.2		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	17		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	970		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	38		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3000		2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.00056		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.00014		0.00010		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.015		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0015	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	490		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	490		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	15000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.65	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.1	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW87-0522 — Lab Sample ID: 550-184623-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	3300	D2	400		mg/L	200		300.0	Total/NA
Sulfate	31000	D2	1000		mg/L	500		300.0	Total/NA
Lithium	2.5		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.5		0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	450		4.0		mg/L	2		200.7 Rev 4.4	Total/NA
Magnesium	2900		10		mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	110		1.0		mg/L	2		200.7 Rev 4.4	Total/NA
Sodium	11000		10		mg/L	20		200.7 Rev 4.4	Total/NA
Iron	0.31		0.20		mg/L	2		200.7 Rev 4.4	Total/NA
Manganese	0.47		0.020		mg/L	2		200.7 Rev 4.4	Total/NA
Antimony	0.0014		0.0010		mg/L	1		200.8 LL	Total/NA
Arsenic	0.0017	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.010	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00017		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0077		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.053		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	1200		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1200		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	36000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.75	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.0	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD04-0522 — Lab Sample ID: 550-184623-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	3200	D2	400		mg/L	200		300.0	Total/NA
Sulfate	31000	D2	1000		mg/L	500		300.0	Total/NA
Lithium	2.5		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.5		0.10		mg/L	2		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-FD04-0522 (Continued) — Lab Sample ID: 550-184623-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Calcium	470		4.0		mg/L	2		200.7 Rev 4.4	Total/NA
Magnesium	3000		10		mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	110		1.0		mg/L	2		200.7 Rev 4.4	Total/NA
Sodium	11000		10		mg/L	20		200.7 Rev 4.4	Total/NA
Iron	0.33		0.20		mg/L	2		200.7 Rev 4.4	Total/NA
Manganese	0.47		0.020		mg/L	2		200.7 Rev 4.4	Total/NA
Antimony	0.0014		0.0010		mg/L	1		200.8 LL	Total/NA
Arsenic	0.0016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.0097	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00013		0.00010		mg/L	1		200.8 LL	Total/NA
Chromium	0.0011		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0077		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.055		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.013	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	1200		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1200		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	30000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.77	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.0	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW52-0522 — Lab Sample ID: 550-184623-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	16	M3	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.088		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0047		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW61-0522 — Lab Sample ID: 550-184623-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	340	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.3	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3800	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.46		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	39		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	140		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		1.0		mg/L	2		200.7 Rev 4.4	Total/NA
Arsenic	0.0011		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.018		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.0011		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.028		0.00050		mg/L	1		200.8 LL	Total/NA
Lead	0.0010		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.11		0.00050		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	97		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	68		6.0		mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	29		6.0		mg/L	1		SM 2320B	Total/NA
Alkalinity, Phenolphthalein	15		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5300	D2	100		mg/L	1		SM 2540C	Total/NA
pH	8.46	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.0	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW75-0522 — Lab Sample ID: 550-184623-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	310	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.2	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	4400	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.47		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	24		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	23		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1300		1.0		mg/L	2		200.7 Rev 4.4	Total/NA
Arsenic	0.00075		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.020		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.0016		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.050		0.00050		mg/L	1		200.8 LL	Total/NA
Lead	0.0026		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.17		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0030	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00021	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	100		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	100		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6300	D2	100		mg/L	1		SM 2540C	Total/NA
pH	8.20	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.9	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD03-0522 — Lab Sample ID: 550-184623-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	15		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.092		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0053		0.00050		mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW08-0522

Lab Sample ID: 550-184623-1
Date Collected: 05/24/22 09:28
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1100**	**D2**	400	mg/L			05/27/22 18:03	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 17:07	2
Sulfate	**10000**	**D2**	400	mg/L			05/27/22 18:03	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:45	06/01/22 13:56	1
Lithium	**1.2**		0.020	mg/L		06/06/22 11:38	06/08/22 00:42	1
Boron	**17**		0.050	mg/L		05/26/22 06:45	06/01/22 13:56	1
Calcium	**420**		2.0	mg/L		05/26/22 06:45	06/01/22 13:56	1
Magnesium	**970**		2.0	mg/L		05/26/22 06:45	06/01/22 13:56	1
Potassium	**38**		0.50	mg/L		05/26/22 06:45	06/02/22 20:02	1
Sodium	**3000**		2.5	mg/L		05/26/22 06:45	06/02/22 19:31	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 16:54	1
Arsenic	**0.00056**		0.00050	mg/L		05/26/22 09:25	06/02/22 16:54	1
Barium	**0.011**		0.00050	mg/L		05/26/22 09:25	06/07/22 15:04	1
Cadmium	**0.00014**		0.00010	mg/L		05/26/22 09:25	06/02/22 16:54	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 16:54	1
Cobalt	<0.00050		0.00050	mg/L		05/26/22 09:25	06/02/22 16:54	1
Lead	<0.00050		0.00050	mg/L		05/26/22 09:25	06/02/22 16:54	1
Molybdenum	**0.015**		0.00050	mg/L		05/26/22 09:25	06/02/22 16:54	1
Selenium	**0.0015**	**D1**	0.0010	mg/L		06/07/22 10:29	06/09/22 18:51	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:29	06/13/22 12:00	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 18:52	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**490**		6.0	mg/L			05/27/22 20:38	1
Bicarbonate Alkalinity as CaCO3	**490**		6.0	mg/L			05/27/22 20:38	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 20:38	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			05/27/22 20:38	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 20:38	1
Total Dissolved Solids	**15000**	**D2**	100	mg/L			05/26/22 12:23	1
pH	**7.65**	**H5**	1.68	SU			06/01/22 13:46	1
Temperature	**21.1**	**H5**	0.100	Degrees C			06/01/22 13:46	1

Client Sample ID: FC-CCR-MW87-0522

Lab Sample ID: 550-184623-2
Date Collected: 05/24/22 11:55
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3300**	**D2**	400	mg/L			05/27/22 18:21	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 17:26	2
Sulfate	**31000**	**D2**	1000	mg/L			05/31/22 14:33	500

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW87-0522

Lab Sample ID: 550-184623-2
Date Collected: 05/24/22 11:55
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0020		0.0020	mg/L		05/26/22 06:45	06/01/22 15:58	2
Lithium	**2.5**		0.020	mg/L		06/06/22 11:38	06/08/22 00:46	1
Boron	**1.5**		0.10	mg/L		05/26/22 06:45	06/01/22 15:58	2
Calcium	**450**		4.0	mg/L		05/26/22 06:45	06/01/22 15:58	2
Magnesium	**2900**		10	mg/L		05/26/22 06:45	06/02/22 19:36	5
Potassium	**110**		1.0	mg/L		05/26/22 06:45	06/02/22 20:05	2
Sodium	**11000**		10	mg/L		05/26/22 06:45	06/02/22 19:34	20
Iron	**0.31**		0.20	mg/L		05/26/22 06:45	06/01/22 15:58	2
Manganese	**0.47**		0.020	mg/L		05/26/22 06:45	06/02/22 20:05	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0014**		0.0010	mg/L		05/26/22 09:25	06/03/22 15:02	1
Arsenic	**0.0017**	**D1**	0.0010	mg/L		06/07/22 10:29	06/09/22 18:53	2
Barium	**0.010**	**D1**	0.0010	mg/L		06/07/22 10:29	06/09/22 18:53	2
Cadmium	**0.00017**		0.00010	mg/L		05/26/22 09:25	06/03/22 15:02	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:25	06/03/22 15:02	1
Cobalt	**0.0077**		0.00050	mg/L		05/26/22 09:25	06/03/22 15:02	1
Lead	<0.00050		0.00050	mg/L		05/26/22 09:25	06/03/22 15:02	1
Molybdenum	**0.053**		0.00050	mg/L		05/26/22 09:25	06/03/22 15:02	1
Selenium	**0.012**	**D1**	0.0010	mg/L		06/07/22 10:29	06/09/22 18:53	2
Thallium	<0.00040	D1	0.00040	mg/L		06/07/22 10:29	06/14/22 10:10	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 18:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**1200**		6.0	mg/L			05/27/22 20:47	1
Bicarbonate Alkalinity as CaCO3	**1200**		6.0	mg/L			05/27/22 20:47	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 20:47	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			05/27/22 20:47	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 20:47	1
Total Dissolved Solids	**36000**	**D2**	1000	mg/L			05/26/22 12:23	1
pH	**7.75**	**H5**	1.68	SU			06/01/22 13:49	1
Temperature	**21.0**	**H5**	0.100	Degrees C			06/01/22 13:49	1

Client Sample ID: FC-CCR-FD04-0522

Lab Sample ID: 550-184623-3
Date Collected: 05/24/22 17:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3200**	**D2**	400	mg/L			05/27/22 18:39	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 17:44	2
Sulfate	**31000**	**D2**	1000	mg/L			05/31/22 14:14	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0020		0.0020	mg/L		05/26/22 06:45	06/01/22 16:00	2

Client Sample ID: FC-CCR-FD04-0522

Lab Sample ID: 550-184623-3

Date Collected: 05/24/22 17:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	2.5		0.020	mg/L		06/06/22 11:38	06/08/22 00:50	1
Boron	1.5		0.10	mg/L		05/26/22 06:45	06/01/22 16:00	2
Calcium	470		4.0	mg/L		05/26/22 06:45	06/01/22 16:00	2
Magnesium	3000		10	mg/L		05/26/22 06:45	06/02/22 19:41	5
Potassium	110		1.0	mg/L		05/26/22 06:45	06/02/22 20:07	2
Sodium	11000		10	mg/L		05/26/22 06:45	06/02/22 19:39	20
Iron	0.33		0.20	mg/L		05/26/22 06:45	06/01/22 16:00	2
Manganese	0.47		0.020	mg/L		05/26/22 06:45	06/02/22 20:07	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0014		0.0010	mg/L		05/26/22 09:25	06/03/22 15:04	1
Arsenic	0.0016	D1	0.0010	mg/L		06/07/22 10:29	06/09/22 18:55	2
Barium	0.0097	D1	0.0010	mg/L		06/07/22 10:29	06/09/22 18:55	2
Cadmium	0.00013		0.00010	mg/L		05/26/22 09:25	06/03/22 15:04	1
Chromium	0.0011		0.0010	mg/L		05/26/22 09:25	06/03/22 15:04	1
Cobalt	0.0077		0.00050	mg/L		05/26/22 09:25	06/03/22 15:04	1
Lead	<0.00050		0.00050	mg/L		05/26/22 09:25	06/02/22 16:59	1
Molybdenum	0.055		0.00050	mg/L		05/26/22 09:25	06/03/22 15:04	1
Selenium	0.013	D1	0.0010	mg/L		06/07/22 10:29	06/09/22 18:55	2
Thallium	<0.00040	D1	0.00040	mg/L		06/07/22 10:29	06/14/22 10:14	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 18:56	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	1200		6.0	mg/L			05/27/22 21:22	1
Bicarbonate Alkalinity as CaCO3	1200		6.0	mg/L			05/27/22 21:22	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 21:22	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			05/27/22 21:22	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 21:22	1
Total Dissolved Solids	30000	D2	1000	mg/L			05/26/22 12:23	1
pH	7.77	H5	1.68	SU			06/01/22 13:51	1
Temperature	21.0	H5	0.100	Degrees C			06/01/22 13:51	1

Client Sample ID: FC-CCR-MW52-0522

Lab Sample ID: 550-184623-4

Date Collected: 05/22/22 13:08
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	16	M3	0.050	mg/L		05/26/22 06:45	06/01/22 13:53	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.088		0.00050	mg/L		05/26/22 09:25	06/02/22 16:52	1
Molybdenum	0.0047		0.00050	mg/L		05/26/22 09:25	06/02/22 16:52	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW61-0522

Lab Sample ID: 550-184623-5
Date Collected: 05/22/22 14:02
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	340	D2	4.0	mg/L			05/26/22 19:18	2
Fluoride	1.3	D1	0.80	mg/L			05/26/22 19:18	2
Sulfate	3800	D2	400	mg/L			05/26/22 20:42	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:45	06/01/22 14:03	1
Lithium	0.46		0.020	mg/L		06/06/22 11:38	06/08/22 00:54	1
Boron	39		0.050	mg/L		05/26/22 06:45	06/01/22 14:03	1
Calcium	480		2.0	mg/L		05/26/22 06:45	06/01/22 14:03	1
Magnesium	140		2.0	mg/L		05/26/22 06:45	06/01/22 14:03	1
Potassium	20		0.50	mg/L		05/26/22 06:45	06/02/22 20:10	1
Sodium	1100		1.0	mg/L		05/26/22 06:45	06/02/22 19:44	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:01	1
Arsenic	0.0011		0.00050	mg/L		05/26/22 09:25	06/02/22 17:01	1
Barium	0.018		0.00050	mg/L		05/26/22 09:25	06/07/22 15:10	1
Cadmium	0.0011		0.00010	mg/L		05/26/22 09:25	06/02/22 17:01	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:01	1
Cobalt	0.028		0.00050	mg/L		05/26/22 09:25	06/02/22 17:01	1
Lead	0.0010		0.00050	mg/L		05/26/22 09:25	06/02/22 17:01	1
Molybdenum	0.11		0.00050	mg/L		05/26/22 09:25	06/02/22 17:01	1
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:29	06/09/22 18:57	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:29	06/13/22 12:07	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 18:58	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	97		6.0	mg/L			05/27/22 18:55	1
Bicarbonate Alkalinity as CaCO3	68		6.0	mg/L			05/27/22 18:55	1
Carbonate Alkalinity as CaCO3	29		6.0	mg/L			05/27/22 18:55	1
Alkalinity, Phenolphthalein	15		6.0	mg/L			05/27/22 18:55	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 18:55	1
Total Dissolved Solids	5300	D2	100	mg/L			05/26/22 10:53	1
pH	8.46	H5	1.68	SU			06/01/22 13:53	1
Temperature	21.0	H5	0.100	Degrees C			06/01/22 13:53	1

Client Sample ID: FC-CCR-MW75-0522

Lab Sample ID: 550-184623-6
Date Collected: 05/22/22 15:06
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310	D2	4.0	mg/L			05/26/22 19:46	2
Fluoride	1.2	D1	0.80	mg/L			05/26/22 19:46	2
Sulfate	4400	D2	400	mg/L			05/26/22 21:10	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW75-0522

Lab Sample ID: 550-184623-6
Date Collected: 05/22/22 15:06
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:45	06/01/22 14:06	1
Lithium	**0.47**		0.020	mg/L		06/06/22 11:38	06/08/22 00:58	1
Boron	**24**		0.050	mg/L		05/26/22 06:45	06/01/22 14:06	1
Calcium	**440**		2.0	mg/L		05/26/22 06:45	06/01/22 14:06	1
Magnesium	**230**		2.0	mg/L		05/26/22 06:45	06/01/22 14:06	1
Potassium	**23**		0.50	mg/L		05/26/22 06:45	06/02/22 20:13	1
Sodium	**1300**		1.0	mg/L		05/26/22 06:45	06/02/22 19:47	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:03	1
Arsenic	**0.00075**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:03	1
Barium	**0.020**		0.00050	mg/L		05/26/22 09:25	06/07/22 15:13	1
Cadmium	**0.0016**		0.00010	mg/L		05/26/22 09:25	06/02/22 17:03	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:03	1
Cobalt	**0.050**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:03	1
Lead	**0.0026**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:03	1
Molybdenum	**0.17**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:03	1
Selenium	**0.0030**	**D1**	0.0010	mg/L		06/07/22 10:29	06/09/22 18:59	2
Thallium	**0.00021**	**D1**	0.00020	mg/L		06/07/22 10:29	06/13/22 12:09	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**100**		6.0	mg/L			05/27/22 19:01	1
Bicarbonate Alkalinity as CaCO3	**100**		6.0	mg/L			05/27/22 19:01	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 19:01	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			05/27/22 19:01	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 19:01	1
Total Dissolved Solids	**6300**	**D2**	100	mg/L			05/26/22 10:53	1
pH	**8.20**	**H5**	1.68	SU			06/01/22 13:55	1
Temperature	**20.9**	**H5**	0.100	Degrees C			06/01/22 13:55	1

Client Sample ID: FC-CCR-FD03-0522

Lab Sample ID: 550-184623-7
Date Collected: 05/22/22 13:08
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**15**		0.050	mg/L		05/26/22 06:45	06/01/22 14:09	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.092**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:05	1
Molybdenum	**0.0053**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:05	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275350/2
Matrix: Water
Analysis Batch: 275350

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/26/22 10:53	1
Fluoride	<0.40		0.40		mg/L			05/26/22 10:53	1
Sulfate	<2.0		2.0		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275350/5
Matrix: Water
Analysis Batch: 275350

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	4.02		mg/L		101	90 - 110		
Sulfate			20.0	20.2		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-275350/6
Matrix: Water
Analysis Batch: 275350

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.02		mg/L		101	90 - 110	0	20
Sulfate			20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-184642-B-1 MS
Matrix: Water
Analysis Batch: 275350

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	7.8		20.0	30.1		mg/L		112	80 - 120		
Fluoride	<0.40		4.00	4.24		mg/L		103	80 - 120		
Sulfate	18		20.0	38.1		mg/L		103	80 - 120		

Lab Sample ID: 550-184642-B-1 MSD
Matrix: Water
Analysis Batch: 275350

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7.8		20.0	30.2		mg/L		112	80 - 120	0	20
Fluoride	<0.40		4.00	4.26		mg/L		103	80 - 120	0	20
Sulfate	18		20.0	38.2		mg/L		103	80 - 120	0	20

Lab Sample ID: MB 550-275464/2
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/27/22 10:41	1
Fluoride	<0.40		0.40		mg/L			05/27/22 10:41	1
Sulfate	<2.0		2.0		mg/L			05/27/22 10:41	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-275464/5
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.04		mg/L		101	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-275464/6
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.04		mg/L		101	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-184742-A-1 MS ^5
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	34	D2	100	144	D2	mg/L		110	80 - 120
Fluoride	2.3	D1	20.0	22.7	D1	mg/L		102	80 - 120
Sulfate	370	D2	100	465	D2	mg/L		95	80 - 120

Lab Sample ID: 550-184742-A-1 MSD ^5
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	34	D2	100	144	D2	mg/L		110	80 - 120	0	20
Fluoride	2.3	D1	20.0	22.8	D1	mg/L		103	80 - 120	1	20
Sulfate	370	D2	100	464	D2	mg/L		94	80 - 120	0	20

Lab Sample ID: MB 550-275595/2
Matrix: Water
Analysis Batch: 275595

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0	mg/L			05/31/22 10:52	1
Fluoride	<0.40		0.40	mg/L			05/31/22 10:52	1
Sulfate	<2.0		2.0	mg/L			05/31/22 10:52	1

Lab Sample ID: LCS 550-275595/5
Matrix: Water
Analysis Batch: 275595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.2		mg/L		106	90 - 110
Fluoride	4.00	3.97		mg/L		99	90 - 110
Sulfate	20.0	20.7		mg/L		104	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-275595/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride			4.00	3.99		mg/L		100	90 - 110	0	20
Sulfate			20.0	20.7		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-184768-E-3 MS ^200 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	<400	D1	4000	4440	D1	mg/L		107	80 - 120		
Sulfate	12000	D2	4000	16000	D2	mg/L		103	80 - 120		

Lab Sample ID: 550-184768-E-3 MSD ^200 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<400	D1	4000	4420	D1	mg/L		106	80 - 120	0	20
Sulfate	12000	D2	4000	16000	D2	mg/L		103	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275217/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 06:45	06/01/22 13:40	1
Boron	<0.050		0.050		mg/L		05/26/22 06:45	06/01/22 13:40	1
Calcium	<2.0		2.0		mg/L		05/26/22 06:45	06/01/22 13:40	1
Magnesium	<2.0		2.0		mg/L		05/26/22 06:45	06/01/22 13:40	1
Sodium	<0.50		0.50		mg/L		05/26/22 06:45	06/01/22 13:40	1
Iron	<0.10		0.10		mg/L		05/26/22 06:45	06/01/22 13:40	1

Lab Sample ID: MB 550-275217/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275993 — **Prep Batch: 275217**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Potassium	<0.50		0.50		mg/L		05/26/22 06:45	06/02/22 19:15	1
Sodium	<0.50		0.50		mg/L		05/26/22 06:45	06/02/22 19:15	1
Manganese	<0.010		0.010		mg/L		05/26/22 06:45	06/02/22 19:15	1

Lab Sample ID: LCS 550-275217/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	0.972		mg/L		97	85 - 115		
Boron			1.00	0.967		mg/L		97	85 - 115		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-275217/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	21.0	19.5		mg/L		93	85 - 115
Magnesium	21.0	19.8		mg/L		94	85 - 115
Sodium	20.0	19.2		mg/L		96	85 - 115
Iron	1.00	0.963		mg/L		96	85 - 115

Lab Sample ID: LCS 550-275217/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275993 — **Prep Batch: 275217**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	20.0	20.2		mg/L		101	85 - 115
Sodium	20.0	20.2		mg/L		101	85 - 115
Manganese	1.00	0.955		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-275217/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.01		mg/L		101	85 - 115	4	20
Boron	1.00	0.958		mg/L		96	85 - 115	1	20
Calcium	21.0	20.2		mg/L		96	85 - 115	4	20
Magnesium	21.0	20.5		mg/L		98	85 - 115	3	20
Sodium	20.0	20.0		mg/L		100	85 - 115	4	20
Iron	1.00	0.971		mg/L		97	85 - 115	1	20

Lab Sample ID: LCSD 550-275217/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275993 — **Prep Batch: 275217**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	20.0	19.4		mg/L		97	85 - 115	4	20
Sodium	20.0	19.4		mg/L		97	85 - 115	4	20
Manganese	1.00	0.953		mg/L		95	85 - 115	0	20

Lab Sample ID: 550-184623-4 MS — **Client Sample ID: FC-CCR-MW52-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	16	M3	1.00	15.5	M3	mg/L		-25	70 - 130

Lab Sample ID: 550-184623-4 MSD — **Client Sample ID: FC-CCR-MW52-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	16	M3	1.00	15.8	M3	mg/L		3	70 - 130	2	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 280-577200/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577418 — **Prep Batch: 577200**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/06/22 11:38	06/07/22 22:41	1

Lab Sample ID: LCS 280-577200/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577515 — **Prep Batch: 577200**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.980		mg/L		98	90 - 112		

Lab Sample ID: 280-162978-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577418 — **Prep Batch: 577200**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.058		1.00	1.08		mg/L		102	70 - 130		

Lab Sample ID: 280-162978-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577418 — **Prep Batch: 577200**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.058		1.00	1.01		mg/L		95	70 - 130	6	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-275245/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Arsenic	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Cadmium	<0.00010		0.00010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Chromium	<0.0010		0.0010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Cobalt	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Lead	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Molybdenum	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1

Lab Sample ID: MB 550-275245/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND	E8	0.00050	0.00026	mg/L		05/26/22 09:25	06/07/22 10:45	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-275245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0950		mg/L		95	85 - 115
Arsenic	0.100	0.0967		mg/L		97	85 - 115
Cadmium	0.100	0.0955		mg/L		96	85 - 115
Chromium	0.100	0.101		mg/L		101	85 - 115
Cobalt	0.100	0.0994		mg/L		99	85 - 115
Lead	0.100	0.0969		mg/L		97	85 - 115
Molybdenum	0.100	0.0961		mg/L		96	85 - 115

Lab Sample ID: LCS 550-275245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.111		mg/L		111	85 - 115

Lab Sample ID: LCSD 550-275245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0983		mg/L		98	85 - 115	3	20
Arsenic	0.100	0.0985		mg/L		99	85 - 115	2	20
Cadmium	0.100	0.100		mg/L		100	85 - 115	5	20
Chromium	0.100	0.102		mg/L		102	85 - 115	0	20
Cobalt	0.100	0.101		mg/L		101	85 - 115	2	20
Lead	0.100	0.101		mg/L		101	85 - 115	4	20
Molybdenum	0.100	0.101		mg/L		101	85 - 115	5	20

Lab Sample ID: LCSD 550-275245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.100	0.112		mg/L		112	85 - 115	1	20

Lab Sample ID: 550-184623-4 MS — **Client Sample ID: FC-CCR-MW52-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.088		0.100	0.189		mg/L		101	70 - 130
Molybdenum	0.0047		0.100	0.106		mg/L		101	70 - 130

Lab Sample ID: 550-184623-4 MSD — **Client Sample ID: FC-CCR-MW52-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.088		0.100	0.188		mg/L		100	70 - 130	0	20
Molybdenum	0.0047		0.100	0.107		mg/L		102	70 - 130	1	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-276187/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276695 — **Prep Batch: 276187**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00050		0.00050		mg/L		06/07/22 10:29	06/09/22 18:38	1
Barium	<0.00050		0.00050		mg/L		06/07/22 10:29	06/09/22 18:38	1
Selenium	<0.00050		0.00050		mg/L		06/07/22 10:29	06/09/22 18:38	1

Lab Sample ID: MB 550-276187/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276728 — **Prep Batch: 276187**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00010		0.00010		mg/L		06/07/22 10:29	06/13/22 11:48	1

Lab Sample ID: LCS 550-276187/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276695 — **Prep Batch: 276187**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Arsenic			0.100	0.0977		mg/L		98	85 - 115		
Barium			0.100	0.0983		mg/L		98	85 - 115		
Selenium			0.100	0.0994		mg/L		99	85 - 115		

Lab Sample ID: LCS 550-276187/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276728 — **Prep Batch: 276187**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Thallium			0.100	0.0966		mg/L		97	85 - 115		

Lab Sample ID: LCSD 550-276187/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276695 — **Prep Batch: 276187**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic			0.100	0.0976		mg/L		98	85 - 115	0	20
Barium			0.100	0.106		mg/L		106	85 - 115	8	20
Selenium			0.100	0.0982		mg/L		98	85 - 115	1	20

Lab Sample ID: LCSD 550-276187/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276728 — **Prep Batch: 276187**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium			0.100	0.103		mg/L		103	85 - 115	6	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-275320/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020		mg/L		05/26/22 15:29	05/26/22 18:36	1

Lab Sample ID: LCS 550-275320/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg			0.00500	0.00470		mg/L		94	85 - 115		

Lab Sample ID: LCSD 550-275320/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00471		mg/L		94	85 - 115	0	20

Lab Sample ID: 550-184612-N-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg	<0.00020		0.00500	0.00535		mg/L		107	70 - 130		

Lab Sample ID: 550-184612-N-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	<0.00020		0.00500	0.00552		mg/L		110	70 - 130	3	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-275562/27 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 20:09	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1

Lab Sample ID: MB 550-275562/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-275562/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 17:08	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1

Lab Sample ID: LCS 550-275562/26 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	256		mg/L		102	90 - 110		

Lab Sample ID: LCS 550-275562/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	253		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-275562/13 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	252		mg/L		101	90 - 110	0	20

Lab Sample ID: LCSD 550-275562/37 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	255		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184624-W-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	110			110		mg/L				0.4	20
Bicarbonate Alkalinity as CaCO3	110			110		mg/L				0.4	20
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Lab Sample ID: 550-184648-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	270			264		mg/L				0.5	20
Bicarbonate Alkalinity as CaCO3	270			264		mg/L				0.5	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-184648-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275274/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275274/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	986		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-275274/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	970		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-184630-A-4 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	8300	D2		8170	D2	mg/L				2	10

Lab Sample ID: MB 550-275298/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 12:23	1

Lab Sample ID: LCS 550-275298/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110		

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-275298/3
Matrix: Water
Analysis Batch: 275298

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	934		mg/L		93	90 - 110	7	10

Lab Sample ID: 550-184634-A-17 DU
Matrix: Water
Analysis Batch: 275298

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000	D2		10100	D2	mg/L				0.3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-275704/16
Matrix: Water
Analysis Batch: 275704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.978		SU		99.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275704/4
Matrix: Water
Analysis Batch: 275704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.981		SU		99.7	98.5 - 101.5		

Lab Sample ID: 550-184617-A-3 DU
Matrix: Water
Analysis Batch: 275704

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	10.7	H5		10.79	H5	SU				0.4	5
Temperature	21.2	H5		21.20	H5	Degrees C				0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

HPLC/IC

Analysis Batch: 275350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	300.0	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	300.0	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	300.0	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	300.0	
MB 550-275350/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275350/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275350/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184642-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184642-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	300.0	
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	300.0	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	300.0	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	300.0	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	300.0	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	300.0	
MB 550-275464/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275464/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275464/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184742-A-1 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-184742-A-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	300.0	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	300.0	
MB 550-275595/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275595/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275595/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184768-E-3 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-184768-E-3 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 275217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7	
550-184623-4	FC-CCR-MW52-0522	Total/NA	Water	200.7	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7	
550-184623-7	FC-CCR-FD03-0522	Total/NA	Water	200.7	
MB 550-275217/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275217/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275217/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184623-4 MS	FC-CCR-MW52-0522	Total/NA	Water	200.7	
550-184623-4 MSD	FC-CCR-MW52-0522	Total/NA	Water	200.7	

Metals

Prep Batch: 275245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.8	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8	
550-184623-4	FC-CCR-MW52-0522	Total/NA	Water	200.8	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8	
550-184623-7	FC-CCR-FD03-0522	Total/NA	Water	200.8	
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184623-4 MS	FC-CCR-MW52-0522	Total/NA	Water	200.8	
550-184623-4 MSD	FC-CCR-MW52-0522	Total/NA	Water	200.8	

Prep Batch: 275320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	245.1	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	245.1	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	245.1	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	245.1	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	245.1	
MB 550-275320/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-275320/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-275320/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-184612-N-1-C MS	Matrix Spike	Total/NA	Water	245.1	
550-184612-N-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 275357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	245.1	275320
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	245.1	275320
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	245.1	275320
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	245.1	275320
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	245.1	275320
MB 550-275320/1-A	Method Blank	Total/NA	Water	245.1	275320
LCS 550-275320/2-A	Lab Control Sample	Total/NA	Water	245.1	275320
LCSD 550-275320/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	275320
550-184612-N-1-C MS	Matrix Spike	Total/NA	Water	245.1	275320
550-184612-N-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	275320

Analysis Batch: 275776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-4	FC-CCR-MW52-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-7	FC-CCR-FD03-0522	Total/NA	Water	200.7 Rev 4.4	275217
MB 550-275217/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275217
LCS 550-275217/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275217
LCSD 550-275217/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-4 MS	FC-CCR-MW52-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-4 MSD	FC-CCR-MW52-0522	Total/NA	Water	200.7 Rev 4.4	275217

Metals

Analysis Batch: 275778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	275217

Analysis Batch: 275899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8 LL	275245
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8 LL	275245
550-184623-4	FC-CCR-MW52-0522	Total/NA	Water	200.8 LL	275245
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8 LL	275245
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8 LL	275245
550-184623-7	FC-CCR-FD03-0522	Total/NA	Water	200.8 LL	275245
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8 LL	275245
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275245
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275245
550-184623-4 MS	FC-CCR-MW52-0522	Total/NA	Water	200.8 LL	275245
550-184623-4 MSD	FC-CCR-MW52-0522	Total/NA	Water	200.8 LL	275245

Analysis Batch: 275993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7 Rev 4.4	275217
MB 550-275217/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275217
LCS 550-275217/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275217
LCSD 550-275217/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275217

Analysis Batch: 276075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.8 LL	275245
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8 LL	275245

Prep Batch: 276187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.8	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8	
MB 550-276187/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-276187/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-276187/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Metals

Analysis Batch: 276199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8 LL	275245
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275245
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275245

Analysis Batch: 276289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8 LL	275245
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8 LL	275245
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8 LL	275245

Analysis Batch: 276695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8 LL	276187
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.8 LL	276187
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8 LL	276187
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8 LL	276187
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8 LL	276187
MB 550-276187/1-A	Method Blank	Total/NA	Water	200.8 LL	276187
LCS 550-276187/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276187
LCSD 550-276187/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276187

Analysis Batch: 276728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8 LL	276187
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8 LL	276187
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8 LL	276187
MB 550-276187/1-A	Method Blank	Total/NA	Water	200.8 LL	276187
LCS 550-276187/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276187
LCSD 550-276187/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276187

Analysis Batch: 276786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.8 LL	276187
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8 LL	276187

Prep Batch: 577200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7	
MB 280-577200/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577200/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-162978-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-162978-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 577418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7 Rev 4.4	577200
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7 Rev 4.4	577200

Metals (Continued)

Analysis Batch: 577418 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	577200
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7 Rev 4.4	577200
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7 Rev 4.4	577200
MB 280-577200/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577200
280-162978-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577200
280-162978-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577200

Analysis Batch: 577515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-577200/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577200

General Chemistry

Analysis Batch: 275274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	SM 2540C	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	SM 2540C	
MB 550-275274/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275274/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275274/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184630-A-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	SM 2540C	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	SM 2540C	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	SM 2540C	
MB 550-275298/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275298/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275298/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184634-A-17 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	SM 2320B	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	SM 2320B	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	SM 2320B	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	SM 2320B	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	SM 2320B	
MB 550-275562/27	Method Blank	Total/NA	Water	SM 2320B	
MB 550-275562/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-275562/26	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-275562/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-275562/13	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-275562/37	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-184624-W-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-184648-E-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 275704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 275704 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	SM 4500 H+ B	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	SM 4500 H+ B	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	SM 4500 H+ B	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275704/16	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275704/4	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184617-A-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW08-0522

Lab Sample ID: 550-184623-1
Matrix: Water
Date Collected: 05/24/22 09:28
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 17:07	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 18:03	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 13:56	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275993	06/02/22 19:31	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275993	06/02/22 20:02	MGM	TAL PHX
Total/NA	Prep	200.7			577200	06/06/22 11:38	DNM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577418	06/08/22 00:42	MAB	TAL DEN
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 16:54	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276289	06/07/22 15:04	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276695	06/09/22 18:51	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276728	06/13/22 12:00	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 18:52	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 20:38	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 13:46	CXK	TAL PHX

Client Sample ID: FC-CCR-MW87-0522

Lab Sample ID: 550-184623-2
Matrix: Water
Date Collected: 05/24/22 11:55
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 17:26	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 18:21	AS1	TAL PHX
Total/NA	Analysis	300.0		500	275595	05/31/22 14:33	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275778	06/01/22 15:58	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	275993	06/02/22 19:34	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275993	06/02/22 19:36	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275993	06/02/22 20:05	MGM	TAL PHX
Total/NA	Prep	200.7			577200	06/06/22 11:38	DNM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577418	06/08/22 00:46	MAB	TAL DEN

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW87-0522

Lab Sample ID: 550-184623-2
Matrix: Water
Date Collected: 05/24/22 11:55
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276075	06/03/22 15:02	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276695	06/09/22 18:53	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276786	06/14/22 10:10	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 18:54	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 20:47	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 13:49	CXK	TAL PHX

Client Sample ID: FC-CCR-FD04-0522

Lab Sample ID: 550-184623-3
Matrix: Water
Date Collected: 05/24/22 17:00
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 17:44	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 18:39	AS1	TAL PHX
Total/NA	Analysis	300.0		500	275595	05/31/22 14:14	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275778	06/01/22 16:00	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	275993	06/02/22 19:39	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275993	06/02/22 19:41	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275993	06/02/22 20:07	MGM	TAL PHX
Total/NA	Prep	200.7			577200	06/06/22 11:38	DNM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577418	06/08/22 00:50	MAB	TAL DEN
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 16:59	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276075	06/03/22 15:04	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276695	06/09/22 18:55	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276786	06/14/22 10:14	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 18:56	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 21:22	CHS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-FD04-0522 — Lab Sample ID: 550-184623-3

Date Collected: 05/24/22 17:00
Date Received: 05/25/22 14:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 13:51	CXK	TAL PHX

Client Sample ID: FC-CCR-MW52-0522 — Lab Sample ID: 550-184623-4

Date Collected: 05/22/22 13:08
Date Received: 05/25/22 14:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 13:53	MGM	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 16:52	ARE	TAL PHX

Client Sample ID: FC-CCR-MW61-0522 — Lab Sample ID: 550-184623-5

Date Collected: 05/22/22 14:02
Date Received: 05/25/22 14:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275350	05/26/22 19:18	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275350	05/26/22 20:42	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 14:03	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275993	06/02/22 19:44	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275993	06/02/22 20:10	MGM	TAL PHX
Total/NA	Prep	200.7			577200	06/06/22 11:38	DNM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577418	06/08/22 00:54	MAB	TAL DEN
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 17:01	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276289	06/07/22 15:10	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276695	06/09/22 18:57	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276728	06/13/22 12:07	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 18:58	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 18:55	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 13:53	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW75-0522

Lab Sample ID: 550-184623-6
Date Collected: 05/22/22 15:06
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275350	05/26/22 19:46	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275350	05/26/22 21:10	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 14:06	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275993	06/02/22 19:47	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275993	06/02/22 20:13	MGM	TAL PHX
Total/NA	Prep	200.7			577200	06/06/22 11:38	DNM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577418	06/08/22 00:58	MAB	TAL DEN
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 17:03	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276289	06/07/22 15:13	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276695	06/09/22 18:59	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276728	06/13/22 12:09	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:00	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 19:01	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 13:55	CXK	TAL PHX

Client Sample ID: FC-CCR-FD03-0522

Lab Sample ID: 550-184623-7
Date Collected: 05/22/22 13:08
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 14:09	MGM	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 17:05	ARE	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

184623

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Multiunit)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	Sample Specific Notes:
FC-CCR-MW08-0522 -01	5/24/2022	9:28	G	W	2	N	N	X			X		X		X	X	X	X	Low Flow
FC-CCR-MW87-0522 -02	5/24/2022	11:55	G	W	2	N		X				X	X		X	X	X	X	Low Flow
FC-CCR-FD04-0522 -03	5/24/2022	17:00	G	W	2	N	N	X				X	X		X	X	X	X	"
FC-CCR-MW52-0522 -04	5/22/2022	13:08	G	W	3	N	Y		X					X					Low Flow, MS + MSD included
FC-CCR-MW61-0522 -05	5/22/2022	14:02	G	W	2	N	N	X			X		X		X	X	X	X	Low Flow
FC-CCR-MW75-0522 -06	5/22/2022	15:06	G	W	2	N	N	X			X		X		X	X	X	X	"
FC-CCR-FD03-0522 -07	5/22/2022	13:08	G	W	1	N	N		X					X					"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	1	1	1	

550-184623 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C 1ℓ PC

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood	05/25/22 07:00	[signature]	[signature]	6-25-22 7:35
[signature]	American Hotshot	5-25-22 14:00			
			Received in Laboratory by: [signature]	EEPA Pay	5-26-22 1400

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34080.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184623-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/8/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW08-0522 (550-184623-1)	5/24/22	09:28 Arizona		Water			X	1	AZ Sample
FC-CCR-MW87-0522 (550-184623-2)	5/24/22	11:55 Arizona		Water			X	1	AZ Sample
FC-CCR-FD04-0522 (550-184623-3)	5/24/22	17:00 Arizona		Water			X	1	AZ Sample
FC-CCR-MW61-0522 (550-184623-5)	5/22/22	14:02 Arizona		Water			X	1	AZ Sample
FC-CCR-MW75-0522 (550-184623-6)	5/22/22	15:06 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	05-25-22 16:20	EETSW	Fedex		
			[signature]	5/26/22 0935	[signature]

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.9 IR/Q CF+0.1

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184623-1
SDG Number: APS Four Corners Power Plant (Multiunit)

Login Number: 184623
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184623-1
SDG Number: APS Four Corners Power Plant (Multiunit)

Login Number: 184623
List Number: 2
Creator: Naylis, Patrick J

List Source: Eurofins Denver
List Creation: 05/26/22 04:07 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184630-1
Laboratory SDG: APS Four Corners Power Plant (URS)
Client Project/Site: APS - Four Corners CCR
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/16/2022 4:25:07 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184630-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184630-1

Comments
The report being provided is a revision of the original report sent on 6/15/2022. The report (revision 1) is being revised due to: Methods reported to RL.

No additional comments.

Receipt
The samples were received on 5/25/2022 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.2º C, 0.2º C and 0.3º C.

HPLC/IC
Method 300.0: The following sample was diluted for Fluoride due to the abundance of non-target analytes: FC-CCR-MW72-0522 (550-184630-7). An elevated reporting limit (RL) has been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: FC-CCR-MW66-05222 (550-184630-1), FC-CCR-MW67-0522 (550-184630-2), FC-CCR-MW68-0522 (550-184630-3), FC-CCR-MW86-0522 (550-184630-12) and FC-CCR-FD02-0522 (550-184630-13). Elevated reporting limits (RLs) are provided.

Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-276682 contained Selenium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The method blank for preparation batch 280-577339 and analytical batch 280-577704 contained Li above one-half the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method 200.7 Rev 4.4: The instrument blank for analytical batch 280-577704 contained Li greater than one-half the reporting limit (RL) and were not re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184630-1	FC-CCR-MW66-05222	Water	05/20/22 16:48	05/25/22 14:00
550-184630-2	FC-CCR-MW67-0522	Water	05/21/22 11:45	05/25/22 14:00
550-184630-3	FC-CCR-MW68-0522	Water	05/21/22 10:45	05/25/22 14:00
550-184630-4	FC-CCR-MW69-0522	Water	05/21/22 09:48	05/25/22 14:00
550-184630-5	FC-CCR-MW70-0522	Water	05/20/22 11:30	05/25/22 14:00
550-184630-6	FC-CCR-MW71-0522	Water	05/21/22 15:26	05/25/22 14:00
550-184630-7	FC-CCR-MW72-0522	Water	05/22/22 09:38	05/25/22 14:00
550-184630-8	FC-CCR-MW73-0522	Water	05/22/22 10:32	05/25/22 14:00
550-184630-9	FC-CCR-MW83-0522	Water	05/21/22 13:55	05/25/22 14:00
550-184630-10	FC-CCR-MW84-0522	Water	05/21/22 12:36	05/25/22 14:00
550-184630-11	FC-CCR-FD01-0522	Water	05/21/22 22:00	05/25/22 14:00
550-184630-12	FC-CCR-MW86-0522	Water	05/20/22 16:00	05/25/22 14:00
550-184630-13	FC-CCR-FD02-0522	Water	05/20/22 23:00	05/25/22 14:00

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW66-05222 — Lab Sample ID: 550-184630-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400		mg/L	200		300.0	Total/NA
Fluoride	16	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	11000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.35		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	140		0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	450		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.025	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0063	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.019	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0033	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00066	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	17000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.45	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW67-0522 — Lab Sample ID: 550-184630-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400		mg/L	200		300.0	Total/NA
Fluoride	8.2	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	13000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.42		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	160		0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	460		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00022	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0062	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.034	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0041	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.0011	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	1900		20		mg/L	1		SM 2540C	Total/NA
pH	7.37	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-0522 — Lab Sample ID: 550-184630-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400		mg/L	200		300.0	Total/NA
Fluoride	7.5	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	11000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.45		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	110		0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	450		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.017	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.011	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0063	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0060	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.0016	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	18000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.47	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW69-0522 — Lab Sample ID: 550-184630-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	790	D2	400		mg/L	200		300.0	Total/NA
Fluoride	3.9	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	4800	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.21		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	45		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0014	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.0073	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0018	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0056	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.14	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00032	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8300	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.57	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW70-0522 — Lab Sample ID: 550-184630-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400		mg/L	200		300.0	Total/NA
Fluoride	1.6	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	5600	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.37		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	92		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	510		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0027	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0051	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.17	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00020	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	9900	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.51	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW71-0522 — Lab Sample ID: 550-184630-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	560	D2	400		mg/L	200		300.0	Total/NA
Sulfate	9900	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.37		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.56		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	450		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.0094	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.28	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00037	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	16000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.58	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.8	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW72-0522 — Lab Sample ID: 550-184630-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	410	D2	400		mg/L	200		300.0	Total/NA
Sulfate	9600	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.37		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.22		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.0073	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0025	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.095	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00094	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	13000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.50	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW73-0522 — Lab Sample ID: 550-184630-8

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	570	D2	400		mg/L	200		300.0	Total/NA
Sulfate	7100	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.34		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.6		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.018	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0042	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0038	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00023	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	11000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.47	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW83-0522 — Lab Sample ID: 550-184630-9

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	130	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	2.0	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3500	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.18		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.4		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.0090	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0015	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0073	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	5300	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.71	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.4	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW84-0522 — Lab Sample ID: 550-184630-10

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	940	D2	400		mg/L	200		300.0	Total/NA
Sulfate	8100	D2	400		mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW84-0522 (Continued) — Lab Sample ID: 550-184630-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.25		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	77	M3	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.015	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00022	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0068	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0020	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.070	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Thallium	0.0010	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	13000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.35	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.4	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD01-0522 — Lab Sample ID: 550-184630-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	950	D2	400	mg/L	200		300.0	Total/NA
Sulfate	8400	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.25		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	81		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.016	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0071	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0020	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.074	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Thallium	0.00035	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	13000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.47	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.5	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW86-0522 — Lab Sample ID: 550-184630-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400	mg/L	200		300.0	Total/NA
Fluoride	0.92	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	8600	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.34		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	110		0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.014	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0052	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0016	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.0029	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Thallium	0.00064	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	14000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.45	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD02-0522 — Lab Sample ID: 550-184630-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400	mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD02-0522 (Continued) — Lab Sample ID: 550-184630-13

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.94	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	8400	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.33		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	110		0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	460		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0051	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00062	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	14000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.31	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW66-05222

Lab Sample ID: 550-184630-1
Date Collected: 05/20/22 16:48
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	mg/L			05/26/22 17:46	200
Fluoride	16	D1	0.80	mg/L			05/26/22 16:51	2
Sulfate	11000	D2	400	mg/L			05/26/22 17:46	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 14:58	1
Lithium	0.35		0.020	mg/L		06/08/22 06:59	06/10/22 03:55	1
Boron	140		0.10	mg/L		05/26/22 06:51	06/02/22 21:52	2
Calcium	450		2.0	mg/L		05/26/22 06:51	06/01/22 14:58	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:18	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Barium	0.025	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:18	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:18	2
Cobalt	0.0063	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Molybdenum	0.019	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Selenium	0.0033	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Thallium	0.00066	D1	0.00020	mg/L		06/07/22 10:19	06/13/22 12:46	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 18:52	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	17000	D2	100	mg/L			05/26/22 10:53	1
pH	7.45	H5	1.68	SU			06/01/22 14:00	1
Temperature	20.7	H5	0.100	Degrees C			06/01/22 14:00	1

Client Sample ID: FC-CCR-MW67-0522

Lab Sample ID: 550-184630-2
Date Collected: 05/21/22 11:45
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	mg/L			05/26/22 18:05	200
Fluoride	8.2	D1	0.80	mg/L			05/26/22 17:10	2
Sulfate	13000	D2	400	mg/L			05/26/22 18:05	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:01	1
Lithium	0.42		0.020	mg/L		06/08/22 06:59	06/10/22 03:59	1
Boron	160		0.10	mg/L		05/26/22 06:51	06/02/22 21:54	2
Calcium	460		2.0	mg/L		05/26/22 06:51	06/01/22 15:01	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW67-0522

Lab Sample ID: 550-184630-2
Date Collected: 05/21/22 11:45
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:20	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Barium	**0.012**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Cadmium	**0.00022**	**D1**	0.00020	mg/L		06/07/22 10:19	06/09/22 19:20	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:20	2
Cobalt	**0.0062**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Molybdenum	**0.034**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Selenium	**0.0041**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Thallium	**0.0011**	**D1**	0.00020	mg/L		06/07/22 10:19	06/13/22 12:48	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 18:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1900**		20	mg/L			05/26/22 10:53	1
pH	**7.37**	**H5**	1.68	SU			06/01/22 14:02	1
Temperature	**20.6**	**H5**	0.100	Degrees C			06/01/22 14:02	1

Client Sample ID: FC-CCR-MW68-0522

Lab Sample ID: 550-184630-3
Date Collected: 05/21/22 10:45
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1000**	**D2**	400	mg/L			05/26/22 18:23	200
Fluoride	**7.5**	**D1**	0.80	mg/L			05/26/22 17:28	2
Sulfate	**11000**	**D2**	400	mg/L			05/26/22 18:23	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:03	1
Lithium	**0.45**		0.020	mg/L		06/08/22 06:59	06/10/22 04:03	1
Boron	**110**		0.10	mg/L		05/26/22 06:51	06/02/22 21:57	2
Calcium	**450**		2.0	mg/L		05/26/22 06:51	06/01/22 15:03	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:22	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Barium	**0.017**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:22	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:22	2
Cobalt	**0.011**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Molybdenum	**0.0063**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Selenium	**0.0060**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Thallium	**0.0016**	**D1**	0.00020	mg/L		06/07/22 10:19	06/13/22 12:50	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW68-0522

Lab Sample ID: 550-184630-3
Date Collected: 05/21/22 10:45
Matrix: Water
Date Received: 05/25/22 14:00

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 18:56	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	18000	D2	100	mg/L			05/26/22 10:53	1
pH	7.47	H5	1.68	SU			06/01/22 14:06	1
Temperature	20.6	H5	0.100	Degrees C			06/01/22 14:06	1

Client Sample ID: FC-CCR-MW69-0522

Lab Sample ID: 550-184630-4
Date Collected: 05/21/22 09:48
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	790	D2	400	mg/L			05/26/22 21:09	200
Fluoride	3.9	D1	0.80	mg/L			05/26/22 19:55	2
Sulfate	4800	D2	400	mg/L			05/26/22 21:09	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:06	1
Lithium	0.21		0.020	mg/L		06/08/22 06:59	06/10/22 04:07	1
Boron	45		0.050	mg/L		05/26/22 06:51	06/01/22 15:06	1
Calcium	500		2.0	mg/L		05/26/22 06:51	06/01/22 15:06	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:24	2
Arsenic	0.0014	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Barium	0.0073	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:24	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:24	2
Cobalt	0.0018	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Molybdenum	0.0056	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Selenium	0.14	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Thallium	0.00032	D1	0.00020	mg/L		06/07/22 10:19	06/13/22 12:52	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 18:58	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8300	D2	100	mg/L			05/26/22 10:53	1
pH	7.57	H5	1.68	SU			06/01/22 14:13	1
Temperature	20.7	H5	0.100	Degrees C			06/01/22 14:13	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW70-0522

Lab Sample ID: 550-184630-5
Date Collected: 05/20/22 11:30
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**	**D2**	400	mg/L			05/26/22 21:27	200
Fluoride	**1.6**	**D1**	0.80	mg/L			05/26/22 20:14	2
Sulfate	**5600**	**D2**	400	mg/L			05/26/22 21:27	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:08	1
Lithium	**0.37**		0.020	mg/L		06/08/22 06:59	06/10/22 04:11	1
Boron	**92**		0.050	mg/L		05/26/22 06:51	06/01/22 15:08	1
Calcium	**510**		2.0	mg/L		05/26/22 06:51	06/01/22 15:08	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:31	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Barium	**0.012**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:31	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:31	2
Cobalt	**0.0027**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Molybdenum	**0.0051**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Selenium	**0.17**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Thallium	**0.00020**	**D1**	0.00020	mg/L		06/07/22 10:19	06/14/22 10:43	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**9900**	**D2**	100	mg/L			05/26/22 10:53	1
pH	**7.51**	**H5**	1.68	SU			06/01/22 14:16	1
Temperature	**20.7**	**H5**	0.100	Degrees C			06/01/22 14:16	1

Client Sample ID: FC-CCR-MW71-0522

Lab Sample ID: 550-184630-6
Date Collected: 05/21/22 15:26
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**560**	**D2**	400	mg/L			05/26/22 21:46	200
Fluoride	<0.80	D1	0.80	mg/L			05/26/22 20:32	2
Sulfate	**9900**	**D2**	400	mg/L			05/26/22 21:46	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:11	1
Lithium	**0.37**		0.020	mg/L		06/08/22 06:59	06/10/22 04:15	1
Boron	**0.56**		0.050	mg/L		05/26/22 06:51	06/01/22 15:11	1
Calcium	**450**		2.0	mg/L		05/26/22 06:51	06/01/22 15:11	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW71-0522

Lab Sample ID: 550-184630-6
Date Collected: 05/21/22 15:26
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:33	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Barium	**0.0094**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:33	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:33	2
Cobalt	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Molybdenum	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Selenium	**0.28**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Thallium	**0.00037**	**D1**	0.00020	mg/L		06/07/22 10:19	06/14/22 10:45	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**16000**	**D2**	100	mg/L			05/26/22 10:53	1
pH	**7.58**	**H5**	1.68	SU			06/01/22 14:19	1
Temperature	**20.8**	**H5**	0.100	Degrees C			06/01/22 14:19	1

Client Sample ID: FC-CCR-MW72-0522

Lab Sample ID: 550-184630-7
Date Collected: 05/22/22 09:38
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**410**	**D2**	400	mg/L			05/26/22 22:04	200
Fluoride	<0.80	D1 D5	0.80	mg/L			05/26/22 20:50	2
Sulfate	**9600**	**D2**	400	mg/L			05/26/22 22:04	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:14	1
Lithium	**0.37**		0.020	mg/L		06/08/22 06:59	06/10/22 04:19	1
Boron	**0.22**		0.050	mg/L		05/26/22 06:51	06/01/22 15:14	1
Calcium	**440**		2.0	mg/L		05/26/22 06:51	06/01/22 15:14	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:35	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Barium	**0.0073**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:35	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:35	2
Cobalt	**0.0025**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Molybdenum	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Selenium	**0.095**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Thallium	**0.00094**	**D1**	0.00020	mg/L		06/07/22 10:19	06/14/22 10:47	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW72-0522

Lab Sample ID: 550-184630-7
Date Collected: 05/22/22 09:38
Matrix: Water
Date Received: 05/25/22 14:00

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	13000	D2	100	mg/L			05/26/22 10:53	1
pH	7.50	H5	1.68	SU			06/01/22 14:22	1
Temperature	20.7	H5	0.100	Degrees C			06/01/22 14:22	1

Client Sample ID: FC-CCR-MW73-0522

Lab Sample ID: 550-184630-8
Date Collected: 05/22/22 10:32
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	570	D2	400	mg/L			05/27/22 01:45	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 01:08	2
Sulfate	7100	D2	400	mg/L			05/27/22 01:45	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:16	1
Lithium	0.34		0.020	mg/L		06/08/22 06:59	06/10/22 04:23	1
Boron	1.6		0.050	mg/L		05/26/22 06:51	06/01/22 15:16	1
Calcium	470		2.0	mg/L		05/26/22 06:51	06/01/22 15:16	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:37	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:37	2
Barium	0.018	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:37	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:37	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:37	2
Cobalt	0.0042	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:37	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:37	2
Molybdenum	0.0012	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:37	2
Selenium	0.0038	D1	0.0010	mg/L		06/07/22 10:19	06/14/22 10:49	2
Thallium	0.00023	D1	0.00020	mg/L		06/07/22 10:19	06/14/22 10:49	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:06	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000	D2	100	mg/L			05/26/22 10:53	1
pH	7.47	H5	1.68	SU			06/01/22 14:26	1
Temperature	20.6	H5	0.100	Degrees C			06/01/22 14:26	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW83-0522

Lab Sample ID: 550-184630-9
Date Collected: 05/21/22 13:55
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**	**D2**	4.0	mg/L			05/27/22 01:26	2
Fluoride	**2.0**	**D1**	0.80	mg/L			05/27/22 01:26	2
Sulfate	**3500**	**D2**	400	mg/L			05/27/22 02:03	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:19	1
Lithium	**0.18**		0.020	mg/L		06/08/22 06:59	06/10/22 04:43	1
Boron	**2.4**		0.050	mg/L		05/26/22 06:51	06/01/22 15:19	1
Calcium	**440**		2.0	mg/L		05/26/22 06:51	06/01/22 15:19	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:39	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:39	2
Barium	**0.0090**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:39	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:39	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:39	2
Cobalt	**0.0015**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:39	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:39	2
Molybdenum	**0.0073**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:39	2
Selenium	**0.0012**	**D1**	0.0010	mg/L		06/07/22 10:19	06/14/22 10:51	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/14/22 10:51	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:08	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5300**	**D2**	100	mg/L			05/26/22 10:53	1
pH	**7.71**	**H5**	1.68	SU			06/01/22 14:29	1
Temperature	**20.4**	**H5**	0.100	Degrees C			06/01/22 14:29	1

Client Sample ID: FC-CCR-MW84-0522

Lab Sample ID: 550-184630-10
Date Collected: 05/21/22 12:36
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**940**	**D2**	400	mg/L			05/27/22 04:12	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 03:17	2
Sulfate	**8100**	**D2**	400	mg/L			05/27/22 04:12	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 14:55	1
Lithium	**0.25**		0.020	mg/L		06/08/22 06:59	06/10/22 04:47	1
Boron	**77**	**M3**	0.050	mg/L		05/26/22 06:51	06/01/22 14:55	1
Calcium	**480**	**M3**	2.0	mg/L		05/26/22 06:51	06/01/22 14:55	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW84-0522

Lab Sample ID: 550-184630-10
Date Collected: 05/21/22 12:36
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:16	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Barium	**0.015**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Cadmium	**0.00022**	**D1**	0.00020	mg/L		06/07/22 10:19	06/09/22 19:16	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:16	2
Cobalt	**0.0068**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Molybdenum	**0.0020**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Selenium	**0.070**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Thallium	**0.0010**	**D1**	0.00020	mg/L		06/07/22 10:19	06/13/22 12:44	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 18:50	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**13000**	**D2**	100	mg/L			05/26/22 10:53	1
pH	**7.35**	**H5**	1.68	SU			06/01/22 14:32	1
Temperature	**20.4**	**H5**	0.100	Degrees C			06/01/22 14:32	1

Client Sample ID: FC-CCR-FD01-0522

Lab Sample ID: 550-184630-11
Date Collected: 05/21/22 22:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**950**	**D2**	400	mg/L			05/27/22 02:15	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 00:51	2
Sulfate	**8400**	**D2**	400	mg/L			05/27/22 02:15	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:27	1
Lithium	**0.25**		0.020	mg/L		06/08/22 06:59	06/10/22 05:04	1
Boron	**81**		0.050	mg/L		05/26/22 06:51	06/01/22 15:27	1
Calcium	**490**		2.0	mg/L		05/26/22 06:51	06/01/22 15:27	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:41	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Barium	**0.016**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:41	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:41	2
Cobalt	**0.0071**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Molybdenum	**0.0020**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Selenium	**0.074**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Thallium	**0.00035**	**D1**	0.00020	mg/L		06/07/22 10:19	06/14/22 10:53	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD01-0522

Lab Sample ID: 550-184630-11
Date Collected: 05/21/22 22:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	13000	D2	100	mg/L			05/26/22 10:53	1
pH	7.47	H5	1.68	SU			06/01/22 14:35	1
Temperature	20.5	H5	0.100	Degrees C			06/01/22 14:35	1

Client Sample ID: FC-CCR-MW86-0522

Lab Sample ID: 550-184630-12
Date Collected: 05/20/22 16:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1200	D2	400	mg/L			05/27/22 02:43	200
Fluoride	0.92	D1	0.80	mg/L			05/27/22 01:19	2
Sulfate	8600	D2	400	mg/L			05/27/22 02:43	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:29	1
Lithium	0.34		0.020	mg/L		06/08/22 06:59	06/10/22 05:08	1
Boron	110		0.10	mg/L		05/26/22 06:51	06/02/22 21:59	2
Calcium	470		2.0	mg/L		05/26/22 06:51	06/01/22 15:29	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:43	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:43	2
Barium	0.014	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:43	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:43	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:43	2
Cobalt	0.0052	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:43	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:43	2
Molybdenum	0.0016	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:43	2
Selenium	0.0029	D1	0.0010	mg/L		06/07/22 10:19	06/14/22 10:55	2
Thallium	0.00064	D1	0.00020	mg/L		06/07/22 10:19	06/14/22 10:55	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:16	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	14000	D2	100	mg/L			05/26/22 10:53	1
pH	7.45	H5	1.68	SU			06/01/22 14:39	1
Temperature	20.6	H5	0.100	Degrees C			06/01/22 14:39	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD02-0522

Lab Sample ID: 550-184630-13

Date Collected: 05/20/22 23:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**	**D2**	400		mg/L			05/27/22 03:11	200
Fluoride	**0.94**	**D1**	0.80		mg/L			05/27/22 01:47	2
Sulfate	**8400**	**D2**	400		mg/L			05/27/22 03:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 06:51	06/01/22 15:32	1
Lithium	**0.33**		0.020		mg/L		06/08/22 06:59	06/10/22 05:12	1
Boron	**110**		0.10		mg/L		05/26/22 06:51	06/02/22 22:02	2
Calcium	**460**		2.0		mg/L		05/26/22 06:51	06/01/22 15:32	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020		mg/L		06/07/22 10:19	06/09/22 19:45	2
Arsenic	<0.0010	D1	0.0010		mg/L		06/07/22 10:19	06/09/22 19:45	2
Barium	**0.016**	**D1**	0.0010		mg/L		06/07/22 10:19	06/09/22 19:45	2
Cadmium	<0.00020	D1	0.00020		mg/L		06/07/22 10:19	06/09/22 19:45	2
Chromium	<0.0020	D1	0.0020		mg/L		06/07/22 10:19	06/09/22 19:45	2
Cobalt	**0.0051**	**D1**	0.0010		mg/L		06/07/22 10:19	06/09/22 19:45	2
Lead	<0.0010	D1	0.0010		mg/L		06/07/22 10:19	06/09/22 19:45	2
Molybdenum	**0.0016**	**D1**	0.0010		mg/L		06/07/22 10:19	06/09/22 19:45	2
Selenium	**0.0016**	**D1**	0.0010		mg/L		06/07/22 10:19	06/14/22 10:58	2
Thallium	**0.00062**	**D1**	0.00020		mg/L		06/07/22 10:19	06/14/22 10:58	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020		mg/L		05/27/22 14:58	05/27/22 19:18	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**14000**	**D2**	100		mg/L			05/26/22 10:53	1
pH	**7.31**	**H5**	1.68		SU			06/03/22 13:11	1
Temperature	**10.7**	**H5**	0.100		Degrees C			06/03/22 13:11	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275348/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/26/22 10:43	1
Fluoride	<0.40		0.40		mg/L			05/26/22 10:43	1
Sulfate	<2.0		2.0		mg/L			05/26/22 10:43	1

Lab Sample ID: LCS 550-275348/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	21.0		mg/L		105	90 - 110		
Fluoride			4.00	3.97		mg/L		99	90 - 110		
Sulfate			20.0	20.5		mg/L		103	90 - 110		

Lab Sample ID: LCSD 550-275348/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride			4.00	3.99		mg/L		100	90 - 110	1	20
Sulfate			20.0	20.5		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride	<0.80	D1	8.00	6.97	D1	mg/L		86	80 - 120		

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	940	D2	4000	5260	D2	mg/L		108	80 - 120		
Sulfate	8100	D2	4000	12200	D2	mg/L		102	80 - 120		

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	<0.80	D1	8.00	6.97	D1	mg/L		86	80 - 120	0	20

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	940	D2	4000	5260	D2	mg/L		108	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	8100	D2	4000	12100	D2	mg/L		100	80 - 120	1	20

Lab Sample ID: MB 550-275349/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/26/22 11:21	1
Fluoride	<0.40		0.40		mg/L			05/26/22 11:21	1
Sulfate	<2.0		2.0		mg/L			05/26/22 11:21	1

Lab Sample ID: LCS 550-275349/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	4.12		mg/L		103	90 - 110		
Sulfate			20.0	20.4		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-275349/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.12		mg/L		103	90 - 110	0	20
Sulfate			20.0	20.5		mg/L		103	90 - 110	1	20

Lab Sample ID: 550-184633-A-3 MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	47	D1	100	161	D1	mg/L		114	80 - 120		
Sulfate	290	D2	100	392	D2	mg/L		106	80 - 120		

Lab Sample ID: 550-184633-A-3 MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	47	D1	100	161	D1	mg/L		114	80 - 120	0	20
Fluoride	<2.0	D1	20.0	22.4	D1	mg/L		105	80 - 120	NC	20
Sulfate	290	D2	100	391	D2	mg/L		105	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275218/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 06:51	06/01/22 14:42	1
Boron	<0.050		0.050		mg/L		05/26/22 06:51	06/01/22 14:42	1
Calcium	<2.0		2.0		mg/L		05/26/22 06:51	06/01/22 14:42	1

Lab Sample ID: LCS 550-275218/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	1.00		mg/L		100	85 - 115		
Boron			1.00	0.967		mg/L		97	85 - 115		
Calcium			21.0	20.1		mg/L		96	85 - 115		

Lab Sample ID: LCSD 550-275218/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	0.990		mg/L		99	85 - 115	1	20
Boron			1.00	0.977		mg/L		98	85 - 115	1	20
Calcium			21.0	19.8		mg/L		94	85 - 115	1	20

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium	<0.0010		1.00	1.03		mg/L		103	70 - 130		
Boron	77	M3	1.00	74.9	M3	mg/L		-247	70 - 130		
Calcium	480	M3	21.0	466	M3	mg/L		-61	70 - 130		

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010		1.00	1.15		mg/L		115	70 - 130	11	20
Boron	77	M3	1.00	74.8	M3	mg/L		-255	70 - 130	0	20
Calcium	480	M3	21.0	469	M3	mg/L		-44	70 - 130	1	20

Lab Sample ID: MB 280-577339/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577704 — **Prep Batch: 577339**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/08/22 06:59	06/10/22 03:47	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-577339/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577704 — **Prep Batch: 577339**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	1.05		mg/L		105	90 - 112		

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577704 — **Prep Batch: 577339**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.25		1.00	1.35		mg/L		110	70 - 130		

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577704 — **Prep Batch: 577339**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.25		1.00	1.35		mg/L		110	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-276185/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		06/07/22 10:19	06/09/22 19:06	1
Arsenic	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1
Barium	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1
Cadmium	<0.00010		0.00010		mg/L		06/07/22 10:19	06/09/22 19:06	1
Chromium	<0.0010		0.0010		mg/L		06/07/22 10:19	06/09/22 19:06	1
Cobalt	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1
Lead	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1
Molybdenum	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1
Selenium	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1

Lab Sample ID: MB 550-276185/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276736 — **Prep Batch: 276185**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00010		0.00010		mg/L		06/07/22 10:19	06/13/22 12:33	1

Lab Sample ID: LCS 550-276185/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			0.100	0.0906	D1	mg/L		91	85 - 115		
Arsenic			0.100	0.0976	D1	mg/L		98	85 - 115		
Barium			0.100	0.101	D1	mg/L		101	85 - 115		
Cadmium			0.100	0.0977	D1	mg/L		98	85 - 115		
Chromium			0.100	0.0998	D1	mg/L		100	85 - 115		

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-276185/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.100	0.0997	D1	mg/L		100	85 - 115
Lead	0.100	0.0962	D1	mg/L		96	85 - 115
Molybdenum	0.100	0.0969	D1	mg/L		97	85 - 115
Selenium	0.100	0.101	D1	mg/L		101	85 - 115

Lab Sample ID: LCS 550-276185/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276736 — **Prep Batch: 276185**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.101		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-276185/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0919	D1	mg/L		92	85 - 115	1	20
Arsenic	0.100	0.0992	D1	mg/L		99	85 - 115	2	20
Barium	0.100	0.106	D1	mg/L		106	85 - 115	5	20
Cadmium	0.100	0.0982	D1	mg/L		98	85 - 115	1	20
Chromium	0.100	0.102	D1	mg/L		102	85 - 115	3	20
Cobalt	0.100	0.101	D1	mg/L		101	85 - 115	2	20
Lead	0.100	0.0934	D1	mg/L		93	85 - 115	3	20
Molybdenum	0.100	0.0980	D1	mg/L		98	85 - 115	1	20
Selenium	0.100	0.101	D1	mg/L		101	85 - 115	0	20

Lab Sample ID: LCSD 550-276185/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276736 — **Prep Batch: 276185**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.100	0.102		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0020	D1	0.100	0.0948	D1	mg/L		95	70 - 130
Arsenic	<0.0010	D1	0.100	0.107	D1	mg/L		107	70 - 130
Barium	0.015	D1	0.100	0.122	D1	mg/L		107	70 - 130
Cadmium	0.00022	D1	0.100	0.0949	D1	mg/L		95	70 - 130
Chromium	<0.0020	D1	0.100	0.0988	D1	mg/L		99	70 - 130
Cobalt	0.0068	D1	0.100	0.102	D1	mg/L		95	70 - 130
Lead	<0.0010	D1	0.100	0.0881	D1	mg/L		88	70 - 130
Molybdenum	0.0020	D1	0.100	0.106	D1	mg/L		104	70 - 130
Selenium	0.070	D1	0.100	0.192	D1	mg/L		122	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276736 — **Prep Batch: 276185**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.0010	D1	0.100	0.0960		mg/L		95	70 - 130

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0020	D1	0.100	0.0977	D1	mg/L		98	70 - 130	3	20
Arsenic	<0.0010	D1	0.100	0.110	D1	mg/L		110	70 - 130	2	20
Barium	0.015	D1	0.100	0.127	D1	mg/L		111	70 - 130	4	20
Cadmium	0.00022	D1	0.100	0.0972	D1	mg/L		97	70 - 130	2	20
Chromium	<0.0020	D1	0.100	0.103	D1	mg/L		103	70 - 130	4	20
Cobalt	0.0068	D1	0.100	0.106	D1	mg/L		99	70 - 130	4	20
Lead	<0.0010	D1	0.100	0.0943	D1	mg/L		94	70 - 130	7	20
Molybdenum	0.0020	D1	0.100	0.108	D1	mg/L		106	70 - 130	1	20
Selenium	0.070	D1	0.100	0.200	D1	mg/L		130	70 - 130	4	20

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276736 — **Prep Batch: 276185**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.0010	D1	0.100	0.0886		mg/L		88	70 - 130	8	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-275434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275473 — **Prep Batch: 275434**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020		mg/L		05/27/22 14:58	05/27/22 18:40	1

Lab Sample ID: LCS 550-275434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275473 — **Prep Batch: 275434**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hg			0.00500	0.00451		mg/L		90	85 - 115

Lab Sample ID: LCSD 550-275434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275473 — **Prep Batch: 275434**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00454		mg/L		91	85 - 115	1	20

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275473 — **Prep Batch: 275434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hg	<0.00020		0.00500	0.00498		mg/L		100	70 - 130

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275473 — **Prep Batch: 275434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	<0.00020		0.00500	0.00519		mg/L		104	70 - 130	4	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275274/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275274/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids			1000	986		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-275274/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	970		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-184630-1 DU — **Client Sample ID: FC-CCR-MW66-05222**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	17000	D2		17100	D2	mg/L				1	10

Lab Sample ID: 550-184630-4 DU — **Client Sample ID: FC-CCR-MW69-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	8300	D2		8170	D2	mg/L				2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-275704/16 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275704

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.978		SU		99.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275704/28 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275704

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.989		SU		99.8	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275704/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275704

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.981		SU		99.7	98.5 - 101.5		

Lab Sample ID: 550-184617-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275704

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	10.7	H5		10.79	H5	SU				0.4	5
Temperature	21.2	H5		21.20	H5	Degrees C				0	

Lab Sample ID: 550-184630-3 DU — **Client Sample ID: FC-CCR-MW68-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275704

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.47	H5		7.487	H5	SU				0.2	5
Temperature	20.6	H5		20.70	H5	Degrees C				0.5	

Lab Sample ID: LCSSRM 550-275986/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.907		SU		98.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275986/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.896		SU		98.5	98.5 - 101.5		

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-184630-13 DU
Matrix: Water
Analysis Batch: 275986

Client Sample ID: FC-CCR-FD02-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.31	H5		7.241	H5	SU				1	5
Temperature	10.7	H5		10.30	H5	Degrees C				4	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

HPLC/IC

Analysis Batch: 275348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	300.0	
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	300.0	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	300.0	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	300.0	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	300.0	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	300.0	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	300.0	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	300.0	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	300.0	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	300.0	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	300.0	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	300.0	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	300.0	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	300.0	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	300.0	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	300.0	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	300.0	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	300.0	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	300.0	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	300.0	
MB 550-275348/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275348/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275348/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	300.0	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	300.0	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	300.0	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	300.0	

Analysis Batch: 275349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	300.0	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	300.0	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	300.0	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	300.0	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	300.0	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	300.0	
MB 550-275349/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275349/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275349/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184633-A-3 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-184633-A-3 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 275218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.7	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.7	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.7	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.7	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 275218 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.7	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.7	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.7	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.7	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.7	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.7	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.7	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.7	
MB 550-275218/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275218/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275218/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.7	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.7	

Prep Batch: 275434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	245.1	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	245.1	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	245.1	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	245.1	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	245.1	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	245.1	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	245.1	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	245.1	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	245.1	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	245.1	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	245.1	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	245.1	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	245.1	
MB 550-275434/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-275434/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-275434/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	245.1	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	245.1	

Analysis Batch: 275473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	245.1	275434
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	245.1	275434
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	245.1	275434
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	245.1	275434
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	245.1	275434
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	245.1	275434
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	245.1	275434
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	245.1	275434
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	245.1	275434
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	245.1	275434
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	245.1	275434
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	245.1	275434
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	245.1	275434
MB 550-275434/1-A	Method Blank	Total/NA	Water	245.1	275434

Metals (Continued)

Analysis Batch: 275473 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-275434/2-A	Lab Control Sample	Total/NA	Water	245.1	275434
LCSD 550-275434/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	275434
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	245.1	275434
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	245.1	275434

Analysis Batch: 275777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.7 Rev 4.4	275218
MB 550-275218/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275218
LCS 550-275218/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275218
LCSD 550-275218/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	275218

Analysis Batch: 275996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.7 Rev 4.4	275218

Prep Batch: 276185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.8	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.8	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.8	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.8	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.8	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.8	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.8	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.8	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.8	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.8	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.8	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.8	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.8	
MB 550-276185/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-276185/2-A	Lab Control Sample	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 276185 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-276185/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.8	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.8	

Analysis Batch: 276682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.8 LL	276185
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.8 LL	276185
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.8 LL	276185
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.8 LL	276185
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.8 LL	276185
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.8 LL	276185
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.8 LL	276185
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.8 LL	276185
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.8 LL	276185
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.8 LL	276185
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.8 LL	276185
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.8 LL	276185
MB 550-276185/1-A	Method Blank	Total/NA	Water	200.8 LL	276185
LCS 550-276185/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276185
LCSD 550-276185/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276185
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185

Analysis Batch: 276736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.8 LL	276185
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.8 LL	276185
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.8 LL	276185
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.8 LL	276185
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185
MB 550-276185/1-A	Method Blank	Total/NA	Water	200.8 LL	276185
LCS 550-276185/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276185
LCSD 550-276185/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276185
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185

Analysis Batch: 276810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.8 LL	276185
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.8 LL	276185
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.8 LL	276185
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.8 LL	276185
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.8 LL	276185
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.8 LL	276185
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.8 LL	276185
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.8 LL	276185

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Metals

Prep Batch: 577339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.7	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.7	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.7	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.7	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.7	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.7	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.7	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.7	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.7	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.7	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.7	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.7	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.7	
MB 280-577339/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577339/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.7	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.7	

Analysis Batch: 577704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.7 Rev 4.4	577339
MB 280-577339/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577339
LCS 280-577339/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	577339

General Chemistry

Analysis Batch: 275274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	SM 2540C	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	SM 2540C	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	SM 2540C	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	SM 2540C	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	SM 2540C	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	SM 2540C	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	SM 2540C	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	SM 2540C	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 275274 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	SM 2540C	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	SM 2540C	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	SM 2540C	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	SM 2540C	
MB 550-275274/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275274/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275274/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184630-1 DU	FC-CCR-MW66-05222	Total/NA	Water	SM 2540C	
550-184630-4 DU	FC-CCR-MW69-0522	Total/NA	Water	SM 2540C	

Analysis Batch: 275704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	SM 4500 H+ B	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275704/16	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275704/28	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275704/4	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184617-A-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-184630-3 DU	FC-CCR-MW68-0522	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 275986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184630-13 DU	FC-CCR-FD02-0522	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW66-05222

Lab Sample ID: 550-184630-1
Matrix: Water
Date Collected: 05/20/22 16:48
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 16:51	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 17:46	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 14:58	MGM	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275996	06/02/22 21:52	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 03:55	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:18	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276736	06/13/22 12:46	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 18:52	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:00	CXK	TAL PHX

Client Sample ID: FC-CCR-MW67-0522

Lab Sample ID: 550-184630-2
Matrix: Water
Date Collected: 05/21/22 11:45
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 17:10	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 18:05	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:01	MGM	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275996	06/02/22 21:54	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 03:59	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:20	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276736	06/13/22 12:48	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 18:54	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:02	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW68-0522

Lab Sample ID: 550-184630-3
Matrix: Water
Date Collected: 05/21/22 10:45
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 17:28	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 18:23	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:03	MGM	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275996	06/02/22 21:57	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:03	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:22	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276736	06/13/22 12:50	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 18:56	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:06	CXK	TAL PHX

Client Sample ID: FC-CCR-MW69-0522

Lab Sample ID: 550-184630-4
Matrix: Water
Date Collected: 05/21/22 09:48
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 19:55	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 21:09	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:06	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:07	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:24	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276736	06/13/22 12:52	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 18:58	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:13	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW70-0522

Lab Sample ID: 550-184630-5
Date Collected: 05/20/22 11:30
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 20:14	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 21:27	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:08	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:11	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:31	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:43	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:00	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:16	CXK	TAL PHX

Client Sample ID: FC-CCR-MW71-0522

Lab Sample ID: 550-184630-6
Date Collected: 05/21/22 15:26
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 20:32	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 21:46	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:11	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:15	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:33	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:45	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:02	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:19	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW72-0522

Lab Sample ID: 550-184630-7
Date Collected: 05/22/22 09:38
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 20:50	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 22:04	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:14	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:19	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:35	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:47	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:04	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:22	CXK	TAL PHX

Client Sample ID: FC-CCR-MW73-0522

Lab Sample ID: 550-184630-8
Date Collected: 05/22/22 10:32
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/27/22 01:08	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/27/22 01:45	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:16	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:23	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:37	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:49	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:06	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:26	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW83-0522

Lab Sample ID: 550-184630-9
Date Collected: 05/21/22 13:55
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/27/22 01:26	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/27/22 02:03	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:19	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:43	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:39	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:51	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:08	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:29	CXK	TAL PHX

Client Sample ID: FC-CCR-MW84-0522

Lab Sample ID: 550-184630-10
Date Collected: 05/21/22 12:36
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/27/22 03:17	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/27/22 04:12	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 14:55	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:47	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:16	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276736	06/13/22 12:44	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 18:50	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:32	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD01-0522

Lab Sample ID: 550-184630-11
Date Collected: 05/21/22 22:00
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275349	05/27/22 00:51	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275349	05/27/22 02:15	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:27	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 05:04	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:41	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:53	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:14	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:35	CXK	TAL PHX

Client Sample ID: FC-CCR-MW86-0522

Lab Sample ID: 550-184630-12
Date Collected: 05/20/22 16:00
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275349	05/27/22 01:19	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275349	05/27/22 02:43	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:29	MGM	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275996	06/02/22 21:59	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 05:08	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:43	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:55	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:16	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:39	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD02-0522

Date Collected: 05/20/22 23:00
Date Received: 05/25/22 14:00

Lab Sample ID: 550-184630-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275349	05/27/22 01:47	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275349	05/27/22 03:11	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:32	MGM	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275996	06/02/22 22:02	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 05:12	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:45	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:58	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:18	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:11	CXK	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

184630

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 2 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			
	☑ 2 weeks			
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (URS)	☐ 2 days			
PO #: 100617121	☐ 1 day			550-184630 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
FC-CCR-MW66-0522 -01	5/20/2022	16:48	G	W	2	N	N	X	X	X	X	X	X	Low Flow
FC-CCR-MW67-0522 -02	5/21/2022	11:45	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW68-0522 -03	5/21/2022	10:45	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW69-0522 -04	5/21/2022	9:48	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW70-0522 -05	5/20/2022	11:30	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW71-0522 -06	5/21/2022	15:26	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW72-0522 -07	5/22/2022	9:38	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW73-0522 -08	5/22/2022	10:32	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW83-0522 -09	5/21/2022	13:55	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW84-0522 -10	5/21/2022	12:36	G	W	6	N	Y	X	X	X	X	X	X	Low Flow, MS + MSD included
FC-CCR-FD01-0522 -11	5/21/2022	22:00	G	W	2	N	N	X	X	X	X	X	X	"
								1	4	4	1	1	4	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C, 0.2°C, 0.3°C IVE PC

Custody Seals Intact: ☐ Yes ☑ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	DOJ	05/25/22 07:00	Francisco Hurtado	American Hotshot	6-25-22 7:35
Relinquished by:	Company: American Hotshot	Date/Time: 5-25-22 14:00	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EETA DHY	Date/Time: 5-25-22 1400

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

6/16/2022 (Rev. 1)

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

184630

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

6/16/2022 (Rev. 1)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 2 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			Walk-in Client:
	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (URS)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
FC-CCR-MW86-0522 -12	5/20/2022	16:00	G	W	2	N	N	X	X	X	X	X	X	Low Flow
FC-CCR-FD02-0522 -13	5/20/2022	23:00	G	W	2	N	N	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____							1	4	4	1	1	4		

Possible Hazard Identification:
Comments Section if the lab is to dispose of the sample.
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.3°C, 0.3°C, 0.3°C ICE PC

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	[illegible]	05/25/22 [illegible]	[illegible] Hurtado	American Hotshot	6-25-22 7:35
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	American Hotshot	5-25-22 14:00			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
			[illegible]	TEMA PHX	5-26-22 1400

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34095.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184630-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/8/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Four Corners CCR	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW66-05222 (550-184630-1)	5/20/22	16:48 Arizona		Water			X	1	AZ Sample
FC-CCR-MW67-0522 (550-184630-2)	5/21/22	11:45 Arizona		Water			X	1	AZ Sample
FC-CCR-MW68-0522 (550-184630-3)	5/21/22	10:45 Arizona		Water			X	1	AZ Sample
FC-CCR-MW69-0522 (550-184630-4)	5/21/22	09:48 Arizona		Water			X	1	AZ Sample
FC-CCR-MW70-0522 (550-184630-5)	5/20/22	11:30 Arizona		Water			X	1	AZ Sample
FC-CCR-MW71-0522 (550-184630-6)	5/21/22	15:26 Arizona		Water			X	1	AZ Sample
FC-CCR-MW72-0522 (550-184630-7)	5/22/22	09:38 Arizona		Water			X	1	AZ Sample
FC-CCR-MW73-0522 (550-184630-8)	5/22/22	10:32 Arizona		Water			X	1	AZ Sample
FC-CCR-MW83-0522 (550-184630-9)	5/21/22	13:55 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 5-20-22 1500	Company: FED Dhx	Received by: FED EX	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: [signature]	Date/Time: 5/27/22 1000	Company: ETADEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.7 KB CF+0.1		

Ver: 06/08/2021

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34095.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184630-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/8/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Four Corners CCR	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW84-0522 (550-184630-10)	5/21/22	12:36 Arizona		Water			X	1	AZ Sample
FC-CCR-MW84-0522 (550-184630-10MS)	5/21/22	12:36 Arizona	MS	Water			X	1	AZ Sample
FC-CCR-MW84-0522 (550-184630-10MSD)	5/21/22	12:36 Arizona	MSD	Water			X	1	AZ Sample
FC-CCR-FD01-0522 (550-184630-11)	5/21/22	22:00 Arizona		Water			X	1	AZ Sample
FC-CCR-MW86-0522 (550-184630-12)	5/20/22	16:00 Arizona		Water			X	1	AZ Sample
FC-CCR-FD02-0522 (550-184630-13)	5/20/22	23:00 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 5-21-22 1500	Company: FEDEX	Received by: FED EX	Date/Time:	Company
Relinquished by: FedEX	Date/Time:	Company	Received by: [signature]	Date/Time: 5/23/22 1000	Company: EXDEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.7 KD-LFXO.1		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184630-1
SDG Number: APS Four Corners Power Plant (URS)

Login Number: 184630
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184630-1
SDG Number: APS Four Corners Power Plant (URS)

Login Number: 184630
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 05/28/22 09:45 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184633-1
Laboratory SDG: APS Four Corners Power Plant (CWTP)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/17/2022 4:18:10 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184633-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184633-1

Comments
No additional comments.

Receipt
The samples were received on 5/25/2022 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.2º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The instrument blank for analytical batch 280-577704 contained Li greater than one-half the reporting limit (RL) and were not re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184633-1	FC-CCR-MW62-0522	Water	05/20/22 14:20	05/25/22 14:00
550-184633-2	FC-CCR-MW63-0522	Water	05/20/22 13:22	05/25/22 14:00
550-184633-3	FC-CCR-MW64-0522	Water	05/20/22 12:26	05/25/22 14:00
550-184633-4	FC-CCR-MW65-0522	Water	05/20/22 15:06	05/25/22 14:00
550-184633-5	FC-CCR-SW1-0522	Water	05/24/22 15:33	05/25/22 14:00
550-184633-6	FC-CCR-SW2-0522	Water	05/24/22 16:55	05/25/22 14:00
550-184633-7	FC-CCR-SW3-0522	Water	05/24/22 17:10	05/25/22 14:00
550-184633-8	FC-CCR-FD08-0522	Water	05/24/22 15:33	05/25/22 14:00

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW62-0522 — Lab Sample ID: 550-184633-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	180	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.4	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3400	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.13		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.8		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00073		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.015		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0014		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0027		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0020		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	6000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.45	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.0	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-0522 — Lab Sample ID: 550-184633-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	93	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	2.1	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	1500	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.058		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.83		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	310		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.015	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0029	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0013	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	2500		20		mg/L	1		SM 2540C	Total/NA
pH	7.40	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-0522 — Lab Sample ID: 550-184633-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	52	D1	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.4	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	290	D2	10		mg/L	5		300.0	Total/NA
Lithium	0.027		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.53		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	77		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.035	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0011	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0049	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	850		20		mg/L	1		SM 2540C	Total/NA
pH	7.90	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-0522 — Lab Sample ID: 550-184633-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	140	D2	4.0		mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW65-0522 (Continued) — Lab Sample ID: 550-184633-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	1.5	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	980	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.081		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.85		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	200		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.042	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0029	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0066	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	1900		20	mg/L	1		SM 2540C	Total/NA
pH	7.73	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.0	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW1-0522 — Lab Sample ID: 550-184633-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	46	D2	4.0	mg/L	2		300.0	Total/NA
Fluoride	0.80	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	390	D2	4.0	mg/L	2		300.0	Total/NA
Lithium	0.086		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.32		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	78		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0015	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Barium	0.18	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0061	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	770		20	mg/L	1		SM 2540C	Total/NA
pH	8.28	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.80	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW2-0522 — Lab Sample ID: 550-184633-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48	D2	4.0	mg/L	2		300.0	Total/NA
Fluoride	0.83	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	400	D2	4.0	mg/L	2		300.0	Total/NA
Lithium	0.090		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.33		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	82		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0022	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Barium	0.21	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0065	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	800		20	mg/L	1		SM 2540C	Total/NA
pH	8.15	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.50	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW3-0522 — Lab Sample ID: 550-184633-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	46	D2	4.0	mg/L	2		300.0	Total/NA
Fluoride	0.80	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	390	D2	4.0	mg/L	2		300.0	Total/NA
Lithium	0.086		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.31		0.050	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-SW3-0522 (Continued) — Lab Sample ID: 550-184633-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Calcium	77		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.18	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0061	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	770		20		mg/L	1		SM 2540C	Total/NA
pH	8.23	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	9.60	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD08-0522 — Lab Sample ID: 550-184633-8

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	46	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	0.81	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	390	D2	4.0		mg/L	2		300.0	Total/NA
Lithium	0.087		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.31		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	79		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.18	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0061	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	750		20		mg/L	1		SM 2540C	Total/NA
pH	8.31	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW62-0522

Lab Sample ID: 550-184633-1
Date Collected: 05/20/22 14:20
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180	D2	4.0	mg/L			05/26/22 02:15	2
Fluoride	1.4	D1	0.80	mg/L			05/26/22 02:15	2
Sulfate	3400	D2	400	mg/L			05/26/22 03:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:45	06/01/22 14:35	1
Lithium	0.13		0.020	mg/L		06/08/22 06:59	06/10/22 21:36	1
Boron	1.8		0.050	mg/L		05/26/22 06:45	06/01/22 14:35	1
Calcium	500		2.0	mg/L		05/26/22 06:45	06/01/22 14:35	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:30	1
Arsenic	0.00073		0.00050	mg/L		05/26/22 09:25	06/02/22 17:30	1
Barium	0.015		0.00050	mg/L		05/26/22 09:25	06/07/22 11:12	1
Cadmium	<0.00010		0.00010	mg/L		05/26/22 09:25	06/02/22 17:30	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:30	1
Cobalt	0.0014		0.00050	mg/L		05/26/22 09:25	06/02/22 17:30	1
Lead	<0.00050		0.00050	mg/L		05/26/22 09:25	06/02/22 17:30	1
Molybdenum	0.0027		0.00050	mg/L		05/26/22 09:25	06/02/22 17:30	1
Selenium	0.0020		0.00050	mg/L		05/26/22 09:25	06/06/22 16:03	1
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:31	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6000	D2	100	mg/L			05/26/22 10:53	1
pH	7.45	H5	1.68	SU			06/03/22 13:16	1
Temperature	10.0	H5	0.100	Degrees C			06/03/22 13:16	1

Client Sample ID: FC-CCR-MW63-0522

Lab Sample ID: 550-184633-2
Date Collected: 05/20/22 13:22
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93	D2	4.0	mg/L			05/26/22 02:43	2
Fluoride	2.1	D1	0.80	mg/L			05/26/22 02:43	2
Sulfate	1500	D2	400	mg/L			05/26/22 03:38	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:34	1
Lithium	0.058		0.020	mg/L		06/08/22 06:59	06/10/22 21:40	1
Boron	0.83		0.050	mg/L		05/26/22 06:51	06/01/22 15:34	1
Calcium	310		2.0	mg/L		05/26/22 06:51	06/01/22 15:34	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW63-0522

Lab Sample ID: 550-184633-2
Date Collected: 05/20/22 13:22
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:17	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:17	2
Barium	**0.015**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:17	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:17	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:17	2
Cobalt	**0.0012**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:17	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:17	2
Molybdenum	**0.0029**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:17	2
Selenium	**0.0013**	**D1**	0.0010	mg/L		06/07/22 10:23	06/14/22 11:33	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:33	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:10	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2500**		20	mg/L			05/26/22 10:53	1
pH	**7.40**	**H5**	1.68	SU			06/03/22 13:19	1
Temperature	**10.7**	**H5**	0.100	Degrees C			06/03/22 13:19	1

Client Sample ID: FC-CCR-MW64-0522

Lab Sample ID: 550-184633-3
Date Collected: 05/20/22 12:26
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**52**	**D1**	4.0	mg/L			05/25/22 20:41	2
Fluoride	**1.4**	**D1**	0.80	mg/L			05/25/22 20:41	2
Sulfate	**290**	**D2**	10	mg/L			05/26/22 13:40	5

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:37	1
Lithium	**0.027**		0.020	mg/L		06/08/22 06:59	06/10/22 21:44	1
Boron	**0.53**		0.050	mg/L		05/26/22 06:51	06/01/22 15:37	1
Calcium	**77**		2.0	mg/L		05/26/22 06:51	06/01/22 15:37	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:19	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:19	2
Barium	**0.035**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:19	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:19	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:19	2
Cobalt	**0.0011**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:19	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:19	2
Molybdenum	**0.0049**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:19	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:35	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:35	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW64-0522

Lab Sample ID: 550-184633-3
Date Collected: 05/20/22 12:26
Matrix: Water
Date Received: 05/25/22 14:00

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:12	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	850		20	mg/L			05/26/22 10:53	1
pH	7.90	H5	1.68	SU			06/03/22 13:21	1
Temperature	11.5	H5	0.100	Degrees C			06/03/22 13:21	1

Client Sample ID: FC-CCR-MW65-0522

Lab Sample ID: 550-184633-4
Date Collected: 05/20/22 15:06
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140	D2	4.0	mg/L			05/26/22 00:51	2
Fluoride	1.5	D1	0.80	mg/L			05/26/22 00:51	2
Sulfate	980	D2	400	mg/L			05/26/22 03:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:40	1
Lithium	0.081		0.020	mg/L		06/08/22 06:59	06/10/22 21:48	1
Boron	0.85		0.050	mg/L		05/26/22 06:51	06/01/22 15:40	1
Calcium	200		2.0	mg/L		05/26/22 06:51	06/01/22 15:40	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:21	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:21	2
Barium	0.042	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:21	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:21	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:21	2
Cobalt	0.0029	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:21	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:21	2
Molybdenum	0.0066	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:21	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:37	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:37	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		20	mg/L			05/26/22 10:53	1
pH	7.73	H5	1.68	SU			06/03/22 13:24	1
Temperature	11.0	H5	0.100	Degrees C			06/03/22 13:24	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW1-0522

Lab Sample ID: 550-184633-5
Date Collected: 05/24/22 15:33
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46	D2	4.0	mg/L			05/26/22 01:19	2
Fluoride	0.80	D1	0.80	mg/L			05/26/22 01:19	2
Sulfate	390	D2	4.0	mg/L			05/26/22 01:19	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:42	1
Lithium	0.086		0.020	mg/L		06/08/22 06:59	06/10/22 21:52	1
Boron	0.32		0.050	mg/L		05/26/22 06:51	06/01/22 15:42	1
Calcium	78		2.0	mg/L		05/26/22 06:51	06/01/22 15:42	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:23	2
Arsenic	0.0015	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:23	2
Barium	0.18	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:23	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:23	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:23	2
Cobalt	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:23	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:23	2
Molybdenum	0.0061	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:23	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:39	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:39	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:16	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	770		20	mg/L			05/26/22 12:23	1
pH	8.28	H5	1.68	SU			06/03/22 13:28	1
Temperature	9.80	H5	0.100	Degrees C			06/03/22 13:28	1

Client Sample ID: FC-CCR-SW2-0522

Lab Sample ID: 550-184633-6
Date Collected: 05/24/22 16:55
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48	D2	4.0	mg/L			05/26/22 01:47	2
Fluoride	0.83	D1	0.80	mg/L			05/26/22 01:47	2
Sulfate	400	D2	4.0	mg/L			05/26/22 01:47	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:45	1
Lithium	0.090		0.020	mg/L		06/08/22 06:59	06/10/22 21:56	1
Boron	0.33		0.050	mg/L		05/26/22 06:51	06/01/22 15:45	1
Calcium	82		2.0	mg/L		05/26/22 06:51	06/01/22 15:45	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW2-0522

Lab Sample ID: 550-184633-6
Date Collected: 05/24/22 16:55
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:25	2
Arsenic	**0.0022**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:25	2
Barium	**0.21**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:25	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:25	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:25	2
Cobalt	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:25	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:25	2
Molybdenum	**0.0065**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:25	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:42	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:42	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:18	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**800**		20	mg/L			05/26/22 12:23	1
pH	**8.15**	**H5**	1.68	SU			06/03/22 13:30	1
Temperature	**9.50**	**H5**	0.100	Degrees C			06/03/22 13:30	1

Client Sample ID: FC-CCR-SW3-0522

Lab Sample ID: 550-184633-7
Date Collected: 05/24/22 17:10
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**46**	**D2**	4.0	mg/L			05/26/22 02:15	2
Fluoride	**0.80**	**D1**	0.80	mg/L			05/26/22 02:15	2
Sulfate	**390**	**D2**	4.0	mg/L			05/26/22 02:15	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:47	1
Lithium	**0.086**		0.020	mg/L		06/08/22 06:59	06/11/22 01:38	1
Boron	**0.31**		0.050	mg/L		05/26/22 06:51	06/01/22 15:47	1
Calcium	**77**		2.0	mg/L		05/26/22 06:51	06/01/22 15:47	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:27	2
Arsenic	**0.0016**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:27	2
Barium	**0.18**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:27	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:27	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:27	2
Cobalt	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:27	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:27	2
Molybdenum	**0.0061**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:27	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:44	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:44	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW3-0522

Lab Sample ID: 550-184633-7
Date Collected: 05/24/22 17:10
Matrix: Water
Date Received: 05/25/22 14:00

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	770		20	mg/L			05/26/22 12:23	1
pH	8.23	H5	1.68	SU			06/03/22 13:32	1
Temperature	9.60	H5	0.100	Degrees C			06/03/22 13:32	1

Client Sample ID: FC-CCR-FD08-0522

Lab Sample ID: 550-184633-8
Date Collected: 05/24/22 15:33
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46	D2	4.0	mg/L			05/26/22 02:43	2
Fluoride	0.81	D1	0.80	mg/L			05/26/22 02:43	2
Sulfate	390	D2	4.0	mg/L			05/26/22 02:43	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:50	1
Lithium	0.087		0.020	mg/L		06/08/22 06:59	06/11/22 01:42	1
Boron	0.31		0.050	mg/L		05/26/22 06:51	06/01/22 15:50	1
Calcium	79		2.0	mg/L		05/26/22 06:51	06/01/22 15:50	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:29	2
Arsenic	0.0016	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:29	2
Barium	0.18	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:29	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:29	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:29	2
Cobalt	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:29	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:29	2
Molybdenum	0.0061	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:29	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:46	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:46	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:22	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750		20	mg/L			05/26/22 12:23	1
pH	8.31	H5	1.68	SU			06/03/22 13:34	1
Temperature	10.7	H5	0.100	Degrees C			06/03/22 13:34	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275203/2
Matrix: Water
Analysis Batch: 275203

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/25/22 10:43	1
Fluoride	<0.40		0.40		mg/L			05/25/22 10:43	1
Sulfate	<2.0		2.0		mg/L			05/25/22 10:43	1

Lab Sample ID: LCS 550-275203/5
Matrix: Water
Analysis Batch: 275203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	3.99		mg/L		100	90 - 110		
Sulfate			20.0	20.5		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-275203/6
Matrix: Water
Analysis Batch: 275203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride			4.00	3.99		mg/L		100	90 - 110	0	20
Sulfate			20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184582-A-1 MS
Matrix: Water
Analysis Batch: 275203

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	12		20.0	34.1		mg/L		110	80 - 120		
Fluoride	<0.40		4.00	4.29		mg/L		103	80 - 120		
Sulfate	6.0		20.0	27.4		mg/L		107	80 - 120		

Lab Sample ID: 550-184582-A-1 MSD
Matrix: Water
Analysis Batch: 275203

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	12		20.0	34.3		mg/L		111	80 - 120	0	20
Fluoride	<0.40		4.00	4.33		mg/L		104	80 - 120	1	20
Sulfate	6.0		20.0	27.6		mg/L		108	80 - 120	1	20

Lab Sample ID: MB 550-275204/2
Matrix: Water
Analysis Batch: 275204

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/25/22 11:21	1
Fluoride	<0.40		0.40		mg/L			05/25/22 11:21	1
Sulfate	<2.0		2.0		mg/L			05/25/22 11:21	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-275204/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275204

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.10		mg/L		103	90 - 110		
Sulfate			20.0	20.5		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-275204/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275204

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.11		mg/L		103	90 - 110	0	20
Sulfate			20.0	20.3		mg/L		102	90 - 110	1	20

Lab Sample ID: 550-184570-A-5 MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275204

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	650	D2	200	863	D2	mg/L		106	80 - 120		
Fluoride	<4.0	D1	40.0	42.3	D1	mg/L		106	80 - 120		
Sulfate	290	D2	200	504	D2	mg/L		106	80 - 120		

Lab Sample ID: 550-184570-A-5 MSD ^10 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275204

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	650	D2	200	865	D2	mg/L		107	80 - 120	0	20
Fluoride	<4.0	D1	40.0	41.7	D1	mg/L		104	80 - 120	2	20
Sulfate	290	D2	200	506	D2	mg/L		107	80 - 120	0	20

Lab Sample ID: MB 550-275205/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275205

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/25/22 10:53	1
Fluoride	<0.40		0.40		mg/L			05/25/22 10:53	1
Sulfate	<2.0		2.0		mg/L			05/25/22 10:53	1

Lab Sample ID: LCS 550-275205/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275205

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.00		mg/L		100	90 - 110		
Sulfate			20.0	20.2		mg/L		101	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-275205/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275205

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.01		mg/L		100	90 - 110	0	20
Sulfate			20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-184581-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275205

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	8.6		20.0	30.9		mg/L		112	80 - 120		
Fluoride	<0.40		4.00	4.29		mg/L		103	80 - 120		
Sulfate	9.7		20.0	30.3		mg/L		103	80 - 120		

Lab Sample ID: 550-184581-B-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275205

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	8.6		20.0	31.2		mg/L		113	80 - 120	1	20
Fluoride	<0.40		4.00	4.33		mg/L		103	80 - 120	1	20
Sulfate	9.7		20.0	30.6		mg/L		104	80 - 120	1	20

Lab Sample ID: MB 550-275349/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/26/22 11:21	1
Fluoride	<0.40		0.40		mg/L			05/26/22 11:21	1
Sulfate	<2.0		2.0		mg/L			05/26/22 11:21	1

Lab Sample ID: LCS 550-275349/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	4.12		mg/L		103	90 - 110		
Sulfate			20.0	20.4		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-275349/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.12		mg/L		103	90 - 110	0	20
Sulfate			20.0	20.5		mg/L		103	90 - 110	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-184633-3 MS — **Client Sample ID: FC-CCR-MW64-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	290	D2	100	392	D2	mg/L		106	80 - 120

Lab Sample ID: 550-184633-3 MSD — **Client Sample ID: FC-CCR-MW64-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	<2.0	D1	20.0	22.4	D1	mg/L		105	80 - 120	NC	20
Sulfate	290	D2	100	391	D2	mg/L		105	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275217/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:45	06/01/22 13:40	1
Boron	<0.050		0.050	mg/L		05/26/22 06:45	06/01/22 13:40	1
Calcium	<2.0		2.0	mg/L		05/26/22 06:45	06/01/22 13:40	1

Lab Sample ID: LCS 550-275217/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.972		mg/L		97	85 - 115
Boron	1.00	0.967		mg/L		97	85 - 115
Calcium	21.0	19.5		mg/L		93	85 - 115

Lab Sample ID: LCSD 550-275217/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.01		mg/L		101	85 - 115	4	20
Boron	1.00	0.958		mg/L		96	85 - 115	1	20
Calcium	21.0	20.2		mg/L		96	85 - 115	4	20

Lab Sample ID: 550-184623-A-4-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	<0.0010		1.00	1.04		mg/L		104	70 - 130
Boron	16	M3	1.00	15.5	M3	mg/L		-25	70 - 130
Calcium	430	M3	21.0	423	M3	mg/L		-55	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184623-A-4-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010		1.00	1.06		mg/L		106	70 - 130	2	20
Boron	16	M3	1.00	15.8	M3	mg/L		3	70 - 130	2	20
Calcium	430	M3	21.0	437	M3	mg/L		11	70 - 130	3	20

Lab Sample ID: MB 550-275218/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 06:51	06/01/22 14:42	1
Boron	<0.050		0.050		mg/L		05/26/22 06:51	06/01/22 14:42	1
Calcium	<2.0		2.0		mg/L		05/26/22 06:51	06/01/22 14:42	1

Lab Sample ID: LCS 550-275218/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.00		mg/L		100	85 - 115
Boron	1.00	0.967		mg/L		97	85 - 115
Calcium	21.0	20.1		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-275218/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.990		mg/L		99	85 - 115	1	20
Boron	1.00	0.977		mg/L		98	85 - 115	1	20
Calcium	21.0	19.8		mg/L		94	85 - 115	1	20

Lab Sample ID: 550-184630-E-10-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	<0.0010		1.00	1.03		mg/L		103	70 - 130
Boron	77	M3	1.00	74.9	M3	mg/L		-247	70 - 130
Calcium	480	M3	21.0	466	M3	mg/L		-61	70 - 130

Lab Sample ID: 550-184630-E-10-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010		1.00	1.15		mg/L		115	70 - 130	11	20
Boron	77	M3	1.00	74.8	M3	mg/L		-255	70 - 130	0	20
Calcium	480	M3	21.0	469	M3	mg/L		-44	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 280-577339/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577339**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/08/22 06:59	06/10/22 21:28	1

Lab Sample ID: LCS 280-577339/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577339**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	1.02		mg/L		102	90 - 112		

Lab Sample ID: 280-162942-A-3-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577339**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.021		1.00	1.02		mg/L		100	70 - 130		

Lab Sample ID: 280-162942-A-3-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577339**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.021		1.00	1.01		mg/L		99	70 - 130	1	20

Lab Sample ID: MB 280-577344/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/08/22 06:59	06/11/22 00:54	1

Lab Sample ID: LCS 280-577344/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	1.02		mg/L		102	90 - 112		

Lab Sample ID: LCSD 280-577344/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	1.02		mg/L		102	90 - 112	0	20

Lab Sample ID: 280-162601-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.055		1.00	1.06		mg/L		101	70 - 130		

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 280-162601-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.055		1.00	1.07		mg/L		101	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-275245/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Arsenic	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Cadmium	<0.00010		0.00010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Chromium	<0.0010		0.0010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Cobalt	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Lead	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Molybdenum	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1

Lab Sample ID: MB 550-275245/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276113 — **Prep Batch: 275245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.00050		0.00050		mg/L		05/26/22 09:25	06/06/22 15:36	1

Lab Sample ID: MB 550-275245/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.00050		0.00050		mg/L		05/26/22 09:25	06/07/22 10:45	1

Lab Sample ID: LCS 550-275245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0950		mg/L		95	85 - 115
Arsenic	0.100	0.0967		mg/L		97	85 - 115
Cadmium	0.100	0.0955		mg/L		96	85 - 115
Chromium	0.100	0.101		mg/L		101	85 - 115
Cobalt	0.100	0.0994		mg/L		99	85 - 115
Lead	0.100	0.0969		mg/L		97	85 - 115
Molybdenum	0.100	0.0961		mg/L		96	85 - 115

Lab Sample ID: LCS 550-275245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276113 — **Prep Batch: 275245**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.0965		mg/L		97	85 - 115

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: LCS 550-275245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.111		mg/L		111	85 - 115

Lab Sample ID: LCSD 550-275245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0983		mg/L		98	85 - 115	3	20
Arsenic	0.100	0.0985		mg/L		99	85 - 115	2	20
Cadmium	0.100	0.100		mg/L		100	85 - 115	5	20
Chromium	0.100	0.102		mg/L		102	85 - 115	0	20
Cobalt	0.100	0.101		mg/L		101	85 - 115	2	20
Lead	0.100	0.101		mg/L		101	85 - 115	4	20
Molybdenum	0.100	0.101		mg/L		101	85 - 115	5	20

Lab Sample ID: LCSD 550-275245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276113 — **Prep Batch: 275245**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.104		mg/L		104	85 - 115	8	20

Lab Sample ID: LCSD 550-275245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.100	0.112		mg/L		112	85 - 115	1	20

Lab Sample ID: 550-184623-B-4-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0010		0.100	0.0955		mg/L		95	70 - 130
Arsenic	0.00075		0.100	0.107		mg/L		107	70 - 130
Cadmium	0.00026		0.100	0.0887		mg/L		88	70 - 130
Chromium	0.0012		0.100	0.100		mg/L		99	70 - 130
Cobalt	0.088		0.100	0.189		mg/L		101	70 - 130
Lead	0.00059		0.100	0.0961		mg/L		96	70 - 130
Molybdenum	0.0047		0.100	0.106		mg/L		101	70 - 130

Lab Sample ID: 550-184623-B-4-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276113 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.0030		0.100	0.132		mg/L		129	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184623-B-4-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.016	R13 M1	0.100	0.176	M1	mg/L		160	70 - 130

Lab Sample ID: 550-184623-B-4-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0010		0.100	0.0974		mg/L		97	70 - 130	2	20
Arsenic	0.00075		0.100	0.108		mg/L		107	70 - 130	1	20
Cadmium	0.00026		0.100	0.0901		mg/L		90	70 - 130	2	20
Chromium	0.0012		0.100	0.0999		mg/L		99	70 - 130	1	20
Cobalt	0.088		0.100	0.188		mg/L		100	70 - 130	0	20
Lead	0.00059		0.100	0.0869		mg/L		86	70 - 130	10	20
Molybdenum	0.0047		0.100	0.107		mg/L		102	70 - 130	1	20

Lab Sample ID: 550-184623-B-4-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276113 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.0030		0.100	0.131		mg/L		128	70 - 130	1	20

Lab Sample ID: 550-184623-B-4-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.016	R13 M1	0.100	0.116	R13	mg/L		100	70 - 130	41	20

Lab Sample ID: MB 550-276186/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		06/07/22 10:23	06/09/22 19:52	1
Arsenic	<0.00050		0.00050	mg/L		06/07/22 10:23	06/09/22 19:52	1
Barium	<0.00050		0.00050	mg/L		06/07/22 10:23	06/09/22 19:52	1
Cadmium	<0.00010		0.00010	mg/L		06/07/22 10:23	06/09/22 19:52	1
Chromium	<0.0010		0.0010	mg/L		06/07/22 10:23	06/09/22 19:52	1
Cobalt	<0.00050		0.00050	mg/L		06/07/22 10:23	06/09/22 19:52	1
Lead	<0.00050		0.00050	mg/L		06/07/22 10:23	06/09/22 19:52	1
Molybdenum	<0.00050		0.00050	mg/L		06/07/22 10:23	06/09/22 19:52	1

Lab Sample ID: MB 550-276186/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.00050		0.00050	mg/L		06/07/22 10:23	06/14/22 11:06	1
Thallium	<0.00010		0.00010	mg/L		06/07/22 10:23	06/14/22 11:06	1

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: LCS 550-276186/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0881		mg/L		88	85 - 115
Arsenic	0.100	0.0954		mg/L		95	85 - 115
Barium	0.100	0.0985		mg/L		99	85 - 115
Cadmium	0.100	0.0942		mg/L		94	85 - 115
Chromium	0.100	0.0967		mg/L		97	85 - 115
Cobalt	0.100	0.0969		mg/L		97	85 - 115
Lead	0.100	0.0934		mg/L		93	85 - 115
Molybdenum	0.100	0.0950		mg/L		95	85 - 115

Lab Sample ID: LCS 550-276186/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.109		mg/L		109	85 - 115
Thallium	0.100	0.102		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-276186/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0960		mg/L		96	85 - 115	9	20
Arsenic	0.100	0.103		mg/L		103	85 - 115	7	20
Barium	0.100	0.109		mg/L		109	85 - 115	10	20
Cadmium	0.100	0.102		mg/L		102	85 - 115	8	20
Chromium	0.100	0.104		mg/L		104	85 - 115	7	20
Cobalt	0.100	0.105		mg/L		105	85 - 115	8	20
Lead	0.100	0.102		mg/L		102	85 - 115	8	20
Molybdenum	0.100	0.104		mg/L		104	85 - 115	9	20

Lab Sample ID: LCSD 550-276186/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.106		mg/L		106	85 - 115	3	20
Thallium	0.100	0.0996		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-184634-A-8-D MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276873 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.010		0.100	0.0937		mg/L		94	70 - 130
Barium	0.018		0.100	0.111		mg/L		93	70 - 130
Cadmium	<0.0010		0.100	0.0942		mg/L		94	70 - 130
Lead	<0.0050		0.100	0.0903		mg/L		90	70 - 130
Molybdenum	<0.0050		0.100	0.105		mg/L		102	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184634-A-8-D MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276873 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	<0.0010		0.100	0.0907		mg/L		90	70 - 130

Lab Sample ID: 550-184634-A-8-D MS ^4 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.0023	D1	0.100	0.124	D1	mg/L		122	70 - 130
Chromium	<0.0040	D1	0.100	0.116	D1	mg/L		114	70 - 130
Cobalt	0.0055	D1	0.100	0.114	D1	mg/L		108	70 - 130
Selenium	0.055	D1 M1	0.100	0.202	D1 M1	mg/L		146	70 - 130

Lab Sample ID: 550-184634-A-8-E MSD ^10 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276873 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.010		0.100	0.0952		mg/L		95	70 - 130	2	20
Barium	0.018		0.100	0.113		mg/L		95	70 - 130	2	20
Cadmium	<0.0010		0.100	0.0961		mg/L		96	70 - 130	2	20
Lead	<0.0050		0.100	0.0912		mg/L		91	70 - 130	1	20
Molybdenum	<0.0050		0.100	0.107		mg/L		104	70 - 130	2	20
Thallium	<0.0010		0.100	0.0899		mg/L		89	70 - 130	1	20

Lab Sample ID: 550-184634-A-8-E MSD ^4 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.0023	D1	0.100	0.129	D1	mg/L		126	70 - 130	3	20
Chromium	<0.0040	D1	0.100	0.122	D1	mg/L		119	70 - 130	5	20
Cobalt	0.0055	D1	0.100	0.116	D1	mg/L		111	70 - 130	2	20
Selenium	0.055	D1 M1	0.100	0.212	D1 M1	mg/L		157	70 - 130	5	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-275320/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020		mg/L		05/26/22 15:29	05/26/22 18:36	1

Lab Sample ID: LCS 550-275320/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hg			0.00500	0.00470		mg/L		94	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 550-275320/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00471		mg/L		94	85 - 115	0	20

Lab Sample ID: 550-184612-N-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg	<0.00020		0.00500	0.00535		mg/L		107	70 - 130		

Lab Sample ID: 550-184612-N-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	<0.00020		0.00500	0.00552		mg/L		110	70 - 130	3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275274/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275274/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	986		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-275274/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	970		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-184630-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	17000	D2		17100	D2	mg/L				1	10

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: MB 550-275298/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 12:23	1

Lab Sample ID: LCS 550-275298/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110		

Lab Sample ID: LCSD 550-275298/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	934		mg/L		93	90 - 110	7	10

Lab Sample ID: 550-184634-A-17 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000	D2		10100	D2	mg/L				0.3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-275986/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.907		SU		98.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275986/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.896		SU		98.5	98.5 - 101.5		

Lab Sample ID: 550-184630-A-13 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.31	H5		7.241	H5	SU				1	5
Temperature	10.7	H5		10.30	H5	Degrees C				4	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

HPLC/IC

Analysis Batch: 275203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	300.0	
MB 550-275203/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275203/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275203/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184582-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184582-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	300.0	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	300.0	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	300.0	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	300.0	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	300.0	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	300.0	
MB 550-275204/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275204/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275204/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184570-A-5 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-184570-A-5 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	300.0	
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	300.0	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	300.0	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	300.0	
MB 550-275205/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275205/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275205/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184581-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184581-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	300.0	
MB 550-275349/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275349/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275349/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184633-3 MS	FC-CCR-MW64-0522	Total/NA	Water	300.0	
550-184633-3 MSD	FC-CCR-MW64-0522	Total/NA	Water	300.0	

Metals

Prep Batch: 275217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.7	
MB 550-275217/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275217/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275217/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184623-A-4-A MS	Matrix Spike	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 275217 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-A-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 275218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.7	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.7	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.7	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.7	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.7	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.7	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.7	
MB 550-275218/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275218/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275218/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184630-E-10-A MS	Matrix Spike	Total/NA	Water	200.7	
550-184630-E-10-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 275245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8	
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184623-B-4-A MS	Matrix Spike	Total/NA	Water	200.8	
550-184623-B-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 275320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	245.1	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	245.1	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	245.1	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	245.1	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	245.1	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	245.1	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	245.1	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	245.1	
MB 550-275320/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-275320/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-275320/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-184612-N-1-C MS	Matrix Spike	Total/NA	Water	245.1	
550-184612-N-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 275357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	245.1	275320
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	245.1	275320
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	245.1	275320
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	245.1	275320
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	245.1	275320
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	245.1	275320
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	245.1	275320

Metals (Continued)

Analysis Batch: 275357 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	245.1	275320
MB 550-275320/1-A	Method Blank	Total/NA	Water	245.1	275320
LCS 550-275320/2-A	Lab Control Sample	Total/NA	Water	245.1	275320
LCSD 550-275320/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	275320
550-184612-N-1-C MS	Matrix Spike	Total/NA	Water	245.1	275320
550-184612-N-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	275320

Analysis Batch: 275776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.7 Rev 4.4	275217
MB 550-275217/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275217
LCS 550-275217/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275217
LCSD 550-275217/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-A-4-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-A-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275217

Analysis Batch: 275777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.7 Rev 4.4	275218
MB 550-275218/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275218
LCS 550-275218/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275218
LCSD 550-275218/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-E-10-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-E-10-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275218

Analysis Batch: 275899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8 LL	275245
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8 LL	275245
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275245
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275245
550-184623-B-4-A MS	Matrix Spike	Total/NA	Water	200.8 LL	275245
550-184623-B-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275245

Analysis Batch: 276113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8 LL	275245
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8 LL	275245
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275245
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275245
550-184623-B-4-A MS	Matrix Spike	Total/NA	Water	200.8 LL	275245
550-184623-B-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275245

Metals

Prep Batch: 276186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.8	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.8	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.8	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.8	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.8	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.8	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.8	
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184634-A-8-D MS ^10	Matrix Spike	Total/NA	Water	200.8	
550-184634-A-8-D MS ^4	Matrix Spike	Total/NA	Water	200.8	
550-184634-A-8-E MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8	
550-184634-A-8-E MSD ^4	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 276199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8 LL	275245
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8 LL	275245
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275245
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275245
550-184623-B-4-A MS	Matrix Spike	Total/NA	Water	200.8 LL	275245
550-184623-B-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275245

Analysis Batch: 276684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.8 LL	276186
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.8 LL	276186
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.8 LL	276186
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.8 LL	276186
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.8 LL	276186
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.8 LL	276186
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.8 LL	276186
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8 LL	276186
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276186
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276186

Analysis Batch: 276831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8 LL	276186
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.8 LL	276186
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.8 LL	276186
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.8 LL	276186
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.8 LL	276186
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.8 LL	276186
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.8 LL	276186
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.8 LL	276186
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8 LL	276186
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276186
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276186

Metals (Continued)

Analysis Batch: 276831 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-A-8-D MS ^4	Matrix Spike	Total/NA	Water	200.8 LL	276186
550-184634-A-8-E MSD ^4	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	276186

Analysis Batch: 276873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-A-8-D MS ^10	Matrix Spike	Total/NA	Water	200.8 LL	276186
550-184634-A-8-E MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	276186

Prep Batch: 577339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.7	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.7	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.7	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.7	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.7	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.7	
MB 280-577339/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577339/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-162942-A-3-C MS	Matrix Spike	Total/NA	Water	200.7	
280-162942-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 577344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.7	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.7	
MB 280-577344/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577344/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-577344/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-162601-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-162601-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 577835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.7 Rev 4.4	577344
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.7 Rev 4.4	577344
MB 280-577339/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577339
MB 280-577344/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577344
LCS 280-577339/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577339
LCS 280-577344/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577344
LCSD 280-577344/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	577344
280-162601-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577344
280-162601-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577344
280-162942-A-3-C MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577339
280-162942-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577339

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

General Chemistry

Analysis Batch: 275274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	SM 2540C	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	SM 2540C	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	SM 2540C	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	SM 2540C	
MB 550-275274/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275274/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275274/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184630-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	SM 2540C	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	SM 2540C	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	SM 2540C	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	SM 2540C	
MB 550-275298/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275298/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275298/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184634-A-17 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184630-A-13 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW62-0522

Lab Sample ID: 550-184633-1

Date Collected: 05/20/22 14:20
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275205	05/26/22 02:15	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275205	05/26/22 03:11	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 14:35	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:36	MAB	TAL DEN
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 17:30	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276113	06/06/22 16:03	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276199	06/07/22 11:12	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:31	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:04	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:16	CXK	TAL PHX

Client Sample ID: FC-CCR-MW63-0522

Lab Sample ID: 550-184633-2

Date Collected: 05/20/22 13:22
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275205	05/26/22 02:43	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275205	05/26/22 03:38	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:34	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:40	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:17	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:33	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:10	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:19	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW64-0522

Lab Sample ID: 550-184633-3
Date Collected: 05/20/22 12:26
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275203	05/25/22 20:41	AS1	TAL PHX
Total/NA	Analysis	300.0		5	275349	05/26/22 13:40	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:37	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:44	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:19	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:35	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:12	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:21	CXK	TAL PHX

Client Sample ID: FC-CCR-MW65-0522

Lab Sample ID: 550-184633-4
Date Collected: 05/20/22 15:06
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275204	05/26/22 00:51	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275204	05/26/22 03:11	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:40	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:48	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:21	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:37	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:14	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:24	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW1-0522

Lab Sample ID: 550-184633-5
Matrix: Water
Date Collected: 05/24/22 15:33
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275204	05/26/22 01:19	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:42	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:52	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:23	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:39	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:16	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:28	CXK	TAL PHX

Client Sample ID: FC-CCR-SW2-0522

Lab Sample ID: 550-184633-6
Matrix: Water
Date Collected: 05/24/22 16:55
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275204	05/26/22 01:47	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:45	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:56	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:25	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:42	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:18	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:30	CXK	TAL PHX

Client Sample ID: FC-CCR-SW3-0522

Lab Sample ID: 550-184633-7
Matrix: Water
Date Collected: 05/24/22 17:10
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275204	05/26/22 02:15	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:47	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW3-0522

Lab Sample ID: 550-184633-7
Matrix: Water

Date Collected: 05/24/22 17:10
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			577344	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/11/22 01:38	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:27	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:44	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:20	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:32	CXK	TAL PHX

Client Sample ID: FC-CCR-FD08-0522

Lab Sample ID: 550-184633-8
Matrix: Water

Date Collected: 05/24/22 15:33
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275204	05/26/22 02:43	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:50	MGM	TAL PHX
Total/NA	Prep	200.7			577344	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/11/22 01:42	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:29	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:46	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:22	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:34	CXK	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

184633

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

6/17/2022

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			Walk-in Client:
	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (CWTP)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 - Totals (Hg)		Sample Specific Notes:
FC-CCR-MW62-0522	5/20/2022	14:20	G	W	2	N	N	X	X	X	X	X	X	-01	Low Flow
FC-CCR-MW63-0522	5/20/2022	13:22	G	W	2	N	N	X	X	X	X	X	X	-02	"
FC-CCR-MW64-0522	5/20/2022	12:26	G	W	2	N	N	X	X	X	X	X	X	-03	"
FC-CCR-MW65-0522	5/20/2022	15:06	G	W	2	N	N	X	X	X	X	X	X	-04	"
FC-CCR-SW1-0522	5/24/2022	15:33	G	W	2	N	N	X	X	X	X	X	X	-05	Morgan Lake grab sample
FC-CCR-SW2-0522	5/24/2022	16:55	G	W	2	N	N	X	X	X	X	X	X	-06	CWTP surface grab sample
FC-CCR-SW3-0522	5/24/2022	17:10	G	W	2	N	N	X	X	X	X	X	X	-07	Cooling canal grab sample
FC-CCR-FD08-0522	5/24/2022	15:33	G	W	2	N	N	X	X	X	X	X	X	-08	Surface water sample duplicate
								1	1	1	4	4	4		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if

☐ Return to Client ☑ Disposal by Lab

550-184633 Chain of Custody

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C ICE PC

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood	05/25/22 07:00	Francisco Hurtado	American Holdings	7:35 6-25-22
[signature]	American Hotshot	5-25-22 14:00			
			Received in Laboratory by: [signature]	Company: EEMS PHX	Date/Time: 5-25-22 1400

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34095.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184633-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/8/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW62-0522 (550-184633-1)	5/20/22	14:20 Arizona		Water			X	1	AZ Sample
FC-CCR-MW63-0522 (550-184633-2)	5/20/22	13:22 Arizona		Water			X	1	AZ Sample
FC-CCR-MW64-0522 (550-184633-3)	5/20/22	12:26 Arizona		Water			X	1	AZ Sample
FC-CCR-MW65-0522 (550-184633-4)	5/20/22	15:06 Arizona		Water			X	1	AZ Sample
FC-CCR-SW1-0522 (550-184633-5)	5/24/22	15:33 Arizona		Water			X	1	AZ Sample
FC-CCR-SW2-0522 (550-184633-6)	5/24/22	16:55 Arizona		Water			X	1	AZ Sample
FC-CCR-SW3-0522 (550-184633-7)	5/24/22	17:10 Arizona		Water			X	1	AZ Sample
FC-CCR-FD08-0522 (550-184633-8)	5/24/22	15:33 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 5-26-22 1500	Company: FEDA DMY	Received by: FED EX	Date/Time:	Company
Relinquished by: FedEX	Date/Time:	Company	Received by: [signature]	Date/Time: 5/27/22 1000	Company: ETADER
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Λ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.7/2.12 CF101

Ver: 06/08/2021

6/17/2022

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184633-1
SDG Number: APS Four Corners Power Plant (CWTP)

Login Number: 184633
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184633-1
SDG Number: APS Four Corners Power Plant (CWTP)

Login Number: 184633
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 05/28/22 09:45 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184634-1
Laboratory SDG: APS Four Corners Power Plant (Other)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/17/2022 6:20:55 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184634-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184634-1

Comments
No additional comments.

Receipt
The samples were received on 5/25/2022 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.2º C and 0.4º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): FC-CCR-MW77S-0522 (550-184634-13). The container labels list sample time 12:32, while the COC lists sample time 11:32. Sample time logged as per Chain of Custody.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: FC-CCR-DMX06-0522 (550-184634-2), FC-CCR-MW15-0522 (550-184634-5), FC-CCR-MW21-0522 (550-184634-8), FC-CCR-MW57-0522 (550-184634-11) and FC-CCR-MW82S-0522 (550-184634-17). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix: FC-CCR-MW21-0522 (550-184634-8) and FC-CCR-FD06-0522 (550-184634-10). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: FC-CCR-MW21-0522 (550-184634-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184634-1	FC-CCR-DMX01-0522	Water	05/23/22 15:33	05/25/22 14:00
550-184634-2	FC-CCR-DMX06-0522	Water	05/24/22 13:26	05/25/22 14:00
550-184634-3	FC-CCR-MW01-0522	Water	05/23/22 10:05	05/25/22 14:00
550-184634-4	FC-CCR-MW03-0522	Water	05/23/22 10:50	05/25/22 14:00
550-184634-5	FC-CCR-MW15-0522	Water	05/24/22 14:16	05/25/22 14:00
550-184634-6	FC-CCR-FD05-0522	Water	05/23/22 10:05	05/25/22 14:00
550-184634-7	FC-CCR-MW19-0522	Water	05/23/22 16:30	05/25/22 14:00
550-184634-8	FC-CCR-MW21-0522	Water	05/23/22 11:35	05/25/22 14:00
550-184634-9	FC-CCR-MW30-0522	Water	05/23/22 13:10	05/25/22 14:00
550-184634-10	FC-CCR-FD06-0522	Water	05/23/22 11:35	05/25/22 14:00
550-184634-11	FC-CCR-MW57-0522	Water	05/24/22 10:38	05/25/22 14:00
550-184634-12	FC-CCR-MW60-0522	Water	05/23/22 09:20	05/25/22 14:00
550-184634-13	FC-CCR-MW77S-0522	Water	05/23/22 11:32	05/25/22 14:00
550-184634-14	FC-CCR-MW78S-0522	Water	05/23/22 13:48	05/25/22 14:00
550-184634-15	FC-CCR-MW79S-0522	Water	05/23/22 15:00	05/25/22 14:00
550-184634-16	FC-CCR-MW81-0522	Water	05/23/22 14:28	05/25/22 14:00
550-184634-17	FC-CCR-MW82S-0522	Water	05/23/22 15:58	05/25/22 14:00
550-184634-18	FC-CCR-FD07-0522	Water	05/23/22 11:32	05/25/22 14:00

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX01-0522 — Lab Sample ID: 550-184634-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	66		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0020		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.012		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-DMX06-0522 — Lab Sample ID: 550-184634-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	750	D2	400		mg/L	200		300.0	Total/NA
Sulfate	7500	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.87		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	5.5		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	350		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	540		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	560		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.79		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	41		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2600		2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.010	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00015		0.00010		mg/L	1		200.8 LL	Total/NA
Chromium	0.0021		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.00062		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0038		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0025		0.00050		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	440		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	440		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.47	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.9	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW01-0522 — Lab Sample ID: 550-184634-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	55	M3	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.056		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.025		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW03-0522 — Lab Sample ID: 550-184634-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	8.0		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.00055		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0014		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW15-0522 — Lab Sample ID: 550-184634-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400		mg/L	200		300.0	Total/NA
Sulfate	6500	D2	400		mg/L	200		300.0	Total/NA
Lithium	1.0		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	7.9		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.12		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	680		2.0		mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW15-0522 (Continued) — Lab Sample ID: 550-184634-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.1		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	42		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2300		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.019	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00011		0.00010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0018		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0012		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.0021		0.00050	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	680		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	680		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.50	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.60	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD05-0522 — Lab Sample ID: 550-184634-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	54		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.057		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.025		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW19-0522 — Lab Sample ID: 550-184634-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0031	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0034	D1	0.0010	mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW21-0522 — Lab Sample ID: 550-184634-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.3		0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Cobalt	0.0055	D1	0.0020	mg/L	4		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW30-0522 — Lab Sample ID: 550-184634-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	25		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0013	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0066	D1	0.0010	mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-FD06-0522 — Lab Sample ID: 550-184634-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.90		0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Cobalt	0.0048	D1	0.0020	mg/L	4		200.8 LL	Total/NA
Molybdenum	0.0024	D1	0.0020	mg/L	4		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW57-0522 — Lab Sample ID: 550-184634-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	520	D2	400	mg/L	200		300.0	Total/NA
Sulfate	7500	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.80		0.020	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW57-0522 (Continued) — Lab Sample ID: 550-184634-11

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	1.0		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	400		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.51		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	730		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.26		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	41		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000		2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.017	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0029	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0058	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0020	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	430		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	430		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.77	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	8.50	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-0522 — Lab Sample ID: 550-184634-12

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	57		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.20	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.15	D1	0.0010		mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW77S-0522 — Lab Sample ID: 550-184634-13

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	9.9		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0066	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.017	D1	0.0010		mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW78S-0522 — Lab Sample ID: 550-184634-14

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	1.4		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0033	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0092	D1	0.0010		mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW79S-0522 — Lab Sample ID: 550-184634-15

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	13		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0036	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0070	D1	0.0010		mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW81-0522 — Lab Sample ID: 550-184634-16

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	42		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.022	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0017	D1	0.0010		mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW82S-0522 — Lab Sample ID: 550-184634-17

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	620	D2	400		mg/L	200		300.0	Total/NA
Sulfate	6200	D2	400		mg/L	200		300.0	Total/NA
Boron	52		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	780		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	29		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	0.063	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	310		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	310		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	10000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.40	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	9.40	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD07-0522 — Lab Sample ID: 550-184634-18

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	9.9		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0066	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Molybdenum	0.018	D1	0.0020		mg/L	4		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX01-0522

Lab Sample ID: 550-184634-1
Date Collected: 05/23/22 15:33
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	66		0.050	mg/L		05/26/22 07:07	06/01/22 16:34	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0020		0.00050	mg/L		05/26/22 09:44	06/02/22 17:55	1
Molybdenum	0.012		0.00050	mg/L		05/26/22 09:44	06/02/22 17:55	1

Client Sample ID: FC-CCR-DMX06-0522

Lab Sample ID: 550-184634-2
Date Collected: 05/24/22 13:26
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	750	D2	400	mg/L			05/27/22 21:44	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 20:30	2
Sulfate	7500	D2	400	mg/L			05/27/22 21:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 07:07	06/01/22 16:36	1
Lithium	0.87		0.020	mg/L		06/08/22 06:59	06/11/22 01:46	1
Boron	5.5		0.050	mg/L		05/26/22 07:07	06/01/22 16:36	1
Calcium	350		2.0	mg/L		05/26/22 07:07	06/01/22 16:36	1
Iron	<0.10		0.10	mg/L		05/26/22 07:07	06/01/22 16:36	1
Magnesium	540		2.0	mg/L		05/26/22 07:07	06/01/22 16:36	1
Magnesium	560		2.0	mg/L		05/26/22 07:07	06/02/22 22:49	1
Manganese	0.79		0.010	mg/L		05/26/22 07:07	06/02/22 22:49	1
Potassium	41		0.50	mg/L		05/26/22 07:07	06/02/22 22:49	1
Sodium	2600		2.5	mg/L		05/26/22 07:07	06/02/22 22:25	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:44	06/02/22 17:58	1
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:04	2
Barium	0.010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:04	2
Cadmium	0.00015		0.00010	mg/L		05/26/22 09:44	06/02/22 17:58	1
Chromium	0.0021		0.0010	mg/L		05/26/22 09:44	06/02/22 17:58	1
Cobalt	0.00062		0.00050	mg/L		05/26/22 09:44	06/02/22 17:58	1
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:04	2
Molybdenum	0.0038		0.00050	mg/L		05/26/22 09:44	06/02/22 17:58	1
Selenium	0.0025		0.00050	mg/L		05/26/22 09:44	06/02/22 17:58	1
Thallium	<0.00040	D1	0.00040	mg/L		06/07/22 10:23	06/14/22 11:54	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	440		6.0	mg/L			05/27/22 19:49	1
Bicarbonate Alkalinity as CaCO3	440		6.0	mg/L			05/27/22 19:49	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 19:49	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			05/27/22 19:49	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 19:49	1
Total Dissolved Solids	12000	D2	100	mg/L			05/26/22 12:23	1

Client Sample ID: FC-CCR-DMX06-0522
Lab Sample ID: 550-184634-2

Date Collected: 05/24/22 13:26
Matrix: Water
Date Received: 05/25/22 14:00

General Chemistry (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
pH	7.47	H5	1.68		SU			06/03/22 13:36	1
Temperature	12.9	H5	0.100		Degrees C			06/03/22 13:36	1

Client Sample ID: FC-CCR-MW01-0522
Lab Sample ID: 550-184634-3

Date Collected: 05/23/22 10:05
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	55	M3	0.050		mg/L		05/26/22 07:07	06/01/22 16:23	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.056		0.00050		mg/L		05/26/22 09:44	06/02/22 17:47	1
Molybdenum	0.025		0.00050		mg/L		05/26/22 09:44	06/02/22 17:47	1

Client Sample ID: FC-CCR-MW03-0522
Lab Sample ID: 550-184634-4

Date Collected: 05/23/22 10:50
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	8.0		0.050		mg/L		05/26/22 07:07	06/01/22 16:39	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00055		0.00050		mg/L		05/26/22 09:44	06/02/22 18:00	1
Molybdenum	0.0014		0.00050		mg/L		05/26/22 09:44	06/02/22 18:00	1

Client Sample ID: FC-CCR-MW15-0522
Lab Sample ID: 550-184634-5

Date Collected: 05/24/22 14:16
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1000	D2	400		mg/L			05/26/22 21:38	200
Fluoride	<0.80	D1	0.80		mg/L			05/26/22 20:14	2
Sulfate	6500	D2	400		mg/L			05/26/22 21:38	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 07:07	06/01/22 16:41	1
Lithium	1.0		0.020		mg/L		06/08/22 06:59	06/11/22 01:50	1
Boron	7.9		0.050		mg/L		05/26/22 07:07	06/01/22 16:41	1
Calcium	440		2.0		mg/L		05/26/22 07:07	06/01/22 16:41	1
Iron	0.12		0.10		mg/L		05/26/22 07:07	06/01/22 16:41	1
Magnesium	680		2.0		mg/L		05/26/22 07:07	06/01/22 16:41	1
Manganese	1.1		0.010		mg/L		05/26/22 07:07	06/02/22 22:51	1
Potassium	42		0.50		mg/L		05/26/22 07:07	06/02/22 22:51	1
Sodium	2300		2.5		mg/L		05/26/22 07:07	06/02/22 22:28	5

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW15-0522

Lab Sample ID: 550-184634-5
Date Collected: 05/24/22 14:16
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		05/26/22 09:44	06/02/22 18:02	1
Arsenic	<0.0010	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:06	2
Barium	**0.019**	**D1**	0.0010		mg/L		06/07/22 10:23	06/09/22 20:06	2
Cadmium	**0.00011**		0.00010		mg/L		05/26/22 09:44	06/02/22 18:02	1
Chromium	<0.0010		0.0010		mg/L		05/26/22 09:44	06/02/22 18:02	1
Cobalt	**0.0018**		0.00050		mg/L		05/26/22 09:44	06/02/22 18:02	1
Lead	<0.0010	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:06	2
Molybdenum	**0.0012**		0.00050		mg/L		05/26/22 09:44	06/02/22 18:02	1
Selenium	**0.0021**		0.00050		mg/L		05/26/22 09:44	06/02/22 18:02	1
Thallium	<0.00040	D1	0.00040		mg/L		06/07/22 10:23	06/14/22 11:56	4

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**680**		6.0		mg/L			05/27/22 18:43	1
Bicarbonate Alkalinity as CaCO3	**680**		6.0		mg/L			05/27/22 18:43	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 18:43	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 18:43	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 18:43	1
Total Dissolved Solids	**12000**	**D2**	100		mg/L			05/26/22 10:53	1
pH	**7.50**	**H5**	1.68		SU			06/07/22 11:19	1
Temperature	**8.60**	**H5**	0.100		Degrees C			06/07/22 11:19	1

Client Sample ID: FC-CCR-FD05-0522

Lab Sample ID: 550-184634-6
Date Collected: 05/23/22 10:05
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	**54**		0.050		mg/L		05/26/22 07:07	06/01/22 16:44	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.057**		0.00050		mg/L		05/26/22 09:44	06/02/22 18:04	1
Molybdenum	**0.025**		0.00050		mg/L		05/26/22 09:44	06/02/22 18:04	1

Client Sample ID: FC-CCR-MW19-0522

Lab Sample ID: 550-184634-7
Date Collected: 05/23/22 16:30
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.9**		0.050		mg/L		05/26/22 07:07	06/01/22 16:47	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.0031**	**D1**	0.0010		mg/L		05/26/22 09:44	06/09/22 15:03	2
Molybdenum	**0.0034**	**D1**	0.0010		mg/L		05/26/22 09:44	06/09/22 15:03	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW21-0522

Lab Sample ID: 550-184634-8
Date Collected: 05/23/22 11:35
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.3		0.10	mg/L		05/26/22 07:07	06/02/22 22:46	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0055	D1	0.0020	mg/L		06/07/22 10:23	06/14/22 11:17	4
Molybdenum	<0.0050	D1	0.0050	mg/L		06/07/22 10:23	06/14/22 15:16	10

Client Sample ID: FC-CCR-MW30-0522

Lab Sample ID: 550-184634-9
Date Collected: 05/23/22 13:10
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25		0.050	mg/L		05/26/22 07:07	06/01/22 16:49	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0013	D1	0.0010	mg/L		05/26/22 09:44	06/09/22 15:05	2
Molybdenum	0.0066	D1	0.0010	mg/L		05/26/22 09:44	06/09/22 15:05	2

Client Sample ID: FC-CCR-FD06-0522

Lab Sample ID: 550-184634-10
Date Collected: 05/23/22 11:35
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.90		0.10	mg/L		05/26/22 07:07	06/02/22 22:54	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0048	D1	0.0020	mg/L		05/26/22 09:44	06/09/22 18:30	4
Molybdenum	0.0024	D1	0.0020	mg/L		05/26/22 09:44	06/09/22 18:30	4

Client Sample ID: FC-CCR-MW57-0522

Lab Sample ID: 550-184634-11
Date Collected: 05/24/22 10:38
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	520	D2	400	mg/L			05/27/22 22:02	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 20:48	2
Sulfate	7500	D2	400	mg/L			05/27/22 22:02	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 07:07	06/01/22 17:00	1
Lithium	0.80		0.020	mg/L		06/08/22 06:59	06/11/22 01:54	1
Boron	1.0		0.050	mg/L		05/26/22 07:07	06/01/22 17:00	1
Calcium	400		2.0	mg/L		05/26/22 07:07	06/01/22 17:00	1
Iron	0.51		0.10	mg/L		05/26/22 07:07	06/01/22 17:00	1
Magnesium	730		2.0	mg/L		05/26/22 07:07	06/01/22 17:00	1
Manganese	0.26		0.010	mg/L		05/26/22 07:07	06/02/22 22:57	1

Client Sample ID: FC-CCR-MW57-0522

Lab Sample ID: 550-184634-11

Date Collected: 05/24/22 10:38
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Potassium	41		0.50		mg/L		05/26/22 07:07	06/02/22 22:57	1
Sodium	2000		2.5		mg/L		05/26/22 07:07	06/02/22 22:31	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020		mg/L		06/07/22 10:23	06/09/22 20:08	2
Arsenic	<0.0010	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:08	2
Barium	0.017	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:08	2
Cadmium	<0.00020	D1	0.00020		mg/L		06/07/22 10:23	06/09/22 20:08	2
Chromium	<0.0020	D1	0.0020		mg/L		06/07/22 10:23	06/09/22 20:08	2
Cobalt	0.0029	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:08	2
Lead	<0.0010	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:08	2
Molybdenum	0.0058	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:08	2
Selenium	0.0020	D1	0.0010		mg/L		06/07/22 10:23	06/14/22 11:23	2
Thallium	<0.00040	D1	0.00040		mg/L		06/07/22 10:23	06/14/22 11:58	4

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	430		6.0		mg/L			05/27/22 21:04	1
Bicarbonate Alkalinity as CaCO3	430		6.0		mg/L			05/27/22 21:04	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 21:04	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 21:04	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 21:04	1
Total Dissolved Solids	12000	D2	100		mg/L			05/26/22 12:23	1
pH	7.77	H5	1.68		SU			06/07/22 11:19	1
Temperature	8.50	H5	0.100		Degrees C			06/07/22 11:19	1

Client Sample ID: FC-CCR-MW60-0522

Lab Sample ID: 550-184634-12

Date Collected: 05/23/22 09:20
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	57		0.050		mg/L		05/26/22 07:07	06/01/22 17:02	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.20	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 18:32	2
Molybdenum	0.15	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 18:32	2

Client Sample ID: FC-CCR-MW77S-0522

Lab Sample ID: 550-184634-13

Date Collected: 05/23/22 11:32
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.9		0.050		mg/L		05/26/22 07:07	06/01/22 17:05	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0066	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:11	2

Client Sample ID: FC-CCR-MW77S-0522
Lab Sample ID: 550-184634-13
Date Collected: 05/23/22 11:32
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.017	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:11	2

Client Sample ID: FC-CCR-MW78S-0522
Lab Sample ID: 550-184634-14
Date Collected: 05/23/22 13:48
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.4		0.050		mg/L		05/26/22 07:07	06/01/22 17:07	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0033	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:13	2
Molybdenum	0.0092	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:13	2

Client Sample ID: FC-CCR-MW79S-0522
Lab Sample ID: 550-184634-15
Date Collected: 05/23/22 15:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	13		0.050		mg/L		05/26/22 07:07	06/01/22 17:10	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0036	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:15	2
Molybdenum	0.0070	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:15	2

Client Sample ID: FC-CCR-MW81-0522
Lab Sample ID: 550-184634-16
Date Collected: 05/23/22 14:28
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	42		0.050		mg/L		05/26/22 07:07	06/01/22 17:13	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.022	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:17	2
Molybdenum	0.0017	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:17	2

Client Sample ID: FC-CCR-MW82S-0522
Lab Sample ID: 550-184634-17
Date Collected: 05/23/22 15:58
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	620	D2	400		mg/L			05/27/22 22:20	200
Fluoride	<0.80	D1	0.80		mg/L			05/27/22 21:07	2
Sulfate	6200	D2	400		mg/L			05/27/22 22:20	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW82S-0522

Lab Sample ID: 550-184634-17
Date Collected: 05/23/22 15:58
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	52		0.050		mg/L		05/26/22 07:07	06/01/22 17:15	1
Calcium	430		2.0		mg/L		05/26/22 07:07	06/01/22 17:15	1
Magnesium	780		2.0		mg/L		05/26/22 07:07	06/01/22 17:15	1
Potassium	29		0.50		mg/L		05/26/22 07:07	06/02/22 22:59	1
Sodium	1100		2.5		mg/L		05/26/22 07:07	06/02/22 22:33	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.063	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:20	2
Molybdenum	<0.0010	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:20	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	310		6.0		mg/L			05/27/22 21:14	1
Bicarbonate Alkalinity as CaCO3	310		6.0		mg/L			05/27/22 21:14	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 21:14	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 21:14	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 21:14	1
Total Dissolved Solids	10000	D2	100		mg/L			05/26/22 12:23	1
pH	7.40	H5	1.68		SU			06/07/22 11:19	1
Temperature	9.40	H5	0.100		Degrees C			06/07/22 11:19	1

Client Sample ID: FC-CCR-FD07-0522

Lab Sample ID: 550-184634-18
Date Collected: 05/23/22 11:32
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.9		0.050		mg/L		05/26/22 07:07	06/01/22 17:18	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0066	D1	0.0020		mg/L		05/26/22 09:44	06/09/22 15:31	4
Molybdenum	0.018	D1	0.0020		mg/L		05/26/22 09:44	06/09/22 15:31	4

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275350/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275350

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/26/22 10:53	1
Fluoride	<0.40		0.40		mg/L			05/26/22 10:53	1
Sulfate	<2.0		2.0		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275350/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275350

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	4.02		mg/L		101	90 - 110		
Sulfate			20.0	20.2		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-275350/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275350

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.02		mg/L		101	90 - 110	0	20
Sulfate			20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-184642-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275350

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	7.8		20.0	30.1		mg/L		112	80 - 120		
Fluoride	<0.40		4.00	4.24		mg/L		103	80 - 120		
Sulfate	18		20.0	38.1		mg/L		103	80 - 120		

Lab Sample ID: 550-184642-B-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275350

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7.8		20.0	30.2		mg/L		112	80 - 120	0	20
Fluoride	<0.40		4.00	4.26		mg/L		103	80 - 120	0	20
Sulfate	18		20.0	38.2		mg/L		103	80 - 120	0	20

Lab Sample ID: MB 550-275464/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275464

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/27/22 10:41	1
Fluoride	<0.40		0.40		mg/L			05/27/22 10:41	1
Sulfate	<2.0		2.0		mg/L			05/27/22 10:41	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-275464/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275464

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.04		mg/L		101	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-275464/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275464

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.04		mg/L		101	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-184742-A-1 MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275464

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	34	D2	100	144	D2	mg/L		110	80 - 120
Fluoride	2.3	D1	20.0	22.7	D1	mg/L		102	80 - 120
Sulfate	370	D2	100	465	D2	mg/L		95	80 - 120

Lab Sample ID: 550-184742-A-1 MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275464

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	34	D2	100	144	D2	mg/L		110	80 - 120	0	20
Fluoride	2.3	D1	20.0	22.8	D1	mg/L		103	80 - 120	1	20
Sulfate	370	D2	100	464	D2	mg/L		94	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275220/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275779 — **Prep Batch: 275220**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 07:07	06/01/22 16:08	1
Boron	<0.050		0.050	mg/L		05/26/22 07:07	06/01/22 16:08	1
Calcium	<2.0		2.0	mg/L		05/26/22 07:07	06/01/22 16:08	1
Iron	<0.10		0.10	mg/L		05/26/22 07:07	06/01/22 16:08	1
Magnesium	<2.0		2.0	mg/L		05/26/22 07:07	06/01/22 16:08	1
Sodium	<0.50		0.50	mg/L		05/26/22 07:07	06/01/22 16:08	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-275220/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275997 — **Prep Batch: 275220**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 07:07	06/02/22 22:10	1
Boron	<0.050		0.050		mg/L		05/26/22 07:07	06/02/22 22:10	1
Calcium	<2.0		2.0		mg/L		05/26/22 07:07	06/02/22 22:10	1
Iron	<0.10		0.10		mg/L		05/26/22 07:07	06/02/22 22:10	1
Magnesium	<2.0		2.0		mg/L		05/26/22 07:07	06/02/22 22:10	1
Manganese	<0.010		0.010		mg/L		05/26/22 07:07	06/02/22 22:10	1
Potassium	<0.50		0.50		mg/L		05/26/22 07:07	06/02/22 22:10	1
Sodium	<0.50		0.50		mg/L		05/26/22 07:07	06/02/22 22:10	1

Lab Sample ID: LCS 550-275220/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275779 — **Prep Batch: 275220**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	0.968		mg/L		97	85 - 115		
Boron			1.00	0.984		mg/L		98	85 - 115		
Calcium			21.0	19.6		mg/L		93	85 - 115		
Iron			1.00	0.925		mg/L		93	85 - 115		
Magnesium			21.0	19.8		mg/L		94	85 - 115		
Sodium			20.0	19.6		mg/L		98	85 - 115		

Lab Sample ID: LCS 550-275220/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275997 — **Prep Batch: 275220**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	1.02		mg/L		102	85 - 115		
Boron			1.00	1.01		mg/L		101	85 - 115		
Calcium			21.0	21.1		mg/L		100	85 - 115		
Iron			1.00	0.959		mg/L		96	85 - 115		
Magnesium			21.0	20.8		mg/L		99	85 - 115		
Manganese			1.00	0.963		mg/L		96	85 - 115		
Potassium			20.0	19.9		mg/L		99	85 - 115		
Sodium			20.0	20.1		mg/L		100	85 - 115		

Lab Sample ID: LCSD 550-275220/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275779 — **Prep Batch: 275220**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.04		mg/L		104	85 - 115	7	20
Boron			1.00	0.989		mg/L		99	85 - 115	0	20
Calcium			21.0	20.8		mg/L		99	85 - 115	6	20
Iron			1.00	0.993		mg/L		99	85 - 115	7	20
Magnesium			21.0	21.0		mg/L		100	85 - 115	6	20
Sodium			20.0	20.7		mg/L		103	85 - 115	5	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-275220/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275997 — **Prep Batch: 275220**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.06		mg/L		106	85 - 115	4	20
Boron			1.00	1.00		mg/L		100	85 - 115	0	20
Calcium			21.0	21.8		mg/L		104	85 - 115	3	20
Iron			1.00	1.01		mg/L		101	85 - 115	5	20
Magnesium			21.0	21.5		mg/L		103	85 - 115	3	20
Manganese			1.00	0.974		mg/L		97	85 - 115	1	20
Potassium			20.0	20.6		mg/L		103	85 - 115	3	20
Sodium			20.0	20.7		mg/L		104	85 - 115	3	20

Lab Sample ID: 550-184634-3 MS — **Client Sample ID: FC-CCR-MW01-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275779 — **Prep Batch: 275220**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron	55	M3	1.00	52.6	M3	mg/L		-225	70 - 130		

Lab Sample ID: 550-184634-3 MSD — **Client Sample ID: FC-CCR-MW01-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275779 — **Prep Batch: 275220**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	55	M3	1.00	53.2	M3	mg/L		-170	70 - 130	1	20

Lab Sample ID: MB 280-577344/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/08/22 06:59	06/11/22 00:54	1

Lab Sample ID: LCS 280-577344/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	1.02		mg/L		102	90 - 112		

Lab Sample ID: LCSD 280-577344/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	1.02		mg/L		102	90 - 112	0	20

Lab Sample ID: 280-162601-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.055		1.00	1.06		mg/L		101	70 - 130		

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 280-162601-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.055		1.00	1.07		mg/L		101	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-275260/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275903 — **Prep Batch: 275260**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:44	06/02/22 17:36	1
Cadmium	<0.00010		0.00010	mg/L		05/26/22 09:44	06/02/22 17:36	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:44	06/02/22 17:36	1
Cobalt	<0.00050		0.00050	mg/L		05/26/22 09:44	06/02/22 17:36	1
Molybdenum	<0.00050		0.00050	mg/L		05/26/22 09:44	06/02/22 17:36	1
Selenium	<0.00050		0.00050	mg/L		05/26/22 09:44	06/02/22 17:36	1

Lab Sample ID: LCS 550-275260/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275903 — **Prep Batch: 275260**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0932		mg/L		93	85 - 115
Cadmium	0.100	0.0924		mg/L		92	85 - 115
Chromium	0.100	0.101		mg/L		101	85 - 115
Cobalt	0.100	0.0991		mg/L		99	85 - 115
Molybdenum	0.100	0.0947		mg/L		95	85 - 115
Selenium	0.100	0.0985		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-275260/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275903 — **Prep Batch: 275260**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0925		mg/L		93	85 - 115	1	20
Cadmium	0.100	0.0921		mg/L		92	85 - 115	0	20
Chromium	0.100	0.0994		mg/L		99	85 - 115	2	20
Cobalt	0.100	0.0974		mg/L		97	85 - 115	2	20
Molybdenum	0.100	0.0941		mg/L		94	85 - 115	1	20
Selenium	0.100	0.0951		mg/L		95	85 - 115	4	20

Lab Sample ID: 550-184634-3 MS — **Client Sample ID: FC-CCR-MW01-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275903 — **Prep Batch: 275260**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.056		0.100	0.148		mg/L		92	70 - 130
Molybdenum	0.025		0.100	0.126		mg/L		102	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184634-3 MSD — **Client Sample ID: FC-CCR-MW01-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275903 — **Prep Batch: 275260**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.056		0.100	0.146		mg/L		90	70 - 130	2	20
Molybdenum	0.025		0.100	0.125		mg/L		100	70 - 130	1	20

Lab Sample ID: MB 550-276186/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		06/07/22 10:23	06/09/22 19:52	1
Arsenic	<0.00050		0.00050		mg/L		06/07/22 10:23	06/09/22 19:52	1
Barium	<0.00050		0.00050		mg/L		06/07/22 10:23	06/09/22 19:52	1
Cadmium	<0.00010		0.00010		mg/L		06/07/22 10:23	06/09/22 19:52	1
Chromium	<0.0010		0.0010		mg/L		06/07/22 10:23	06/09/22 19:52	1
Cobalt	<0.00050		0.00050		mg/L		06/07/22 10:23	06/09/22 19:52	1
Lead	<0.00050		0.00050		mg/L		06/07/22 10:23	06/09/22 19:52	1
Molybdenum	<0.00050		0.00050		mg/L		06/07/22 10:23	06/09/22 19:52	1

Lab Sample ID: MB 550-276186/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.00050		0.00050		mg/L		06/07/22 10:23	06/14/22 11:06	1
Thallium	<0.00010		0.00010		mg/L		06/07/22 10:23	06/14/22 11:06	1

Lab Sample ID: LCS 550-276186/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0881		mg/L		88	85 - 115
Arsenic	0.100	0.0954		mg/L		95	85 - 115
Barium	0.100	0.0985		mg/L		99	85 - 115
Cadmium	0.100	0.0942		mg/L		94	85 - 115
Chromium	0.100	0.0967		mg/L		97	85 - 115
Cobalt	0.100	0.0969		mg/L		97	85 - 115
Lead	0.100	0.0934		mg/L		93	85 - 115
Molybdenum	0.100	0.0950		mg/L		95	85 - 115

Lab Sample ID: LCS 550-276186/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.109		mg/L		109	85 - 115
Thallium	0.100	0.102		mg/L		102	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-276186/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0960		mg/L		96	85 - 115	9	20
Arsenic	0.100	0.103		mg/L		103	85 - 115	7	20
Barium	0.100	0.109		mg/L		109	85 - 115	10	20
Cadmium	0.100	0.102		mg/L		102	85 - 115	8	20
Chromium	0.100	0.104		mg/L		104	85 - 115	7	20
Cobalt	0.100	0.105		mg/L		105	85 - 115	8	20
Lead	0.100	0.102		mg/L		102	85 - 115	8	20
Molybdenum	0.100	0.104		mg/L		104	85 - 115	9	20

Lab Sample ID: LCSD 550-276186/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.106		mg/L		106	85 - 115	3	20
Thallium	0.100	0.0996		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-184634-8 MS — **Client Sample ID: FC-CCR-MW21-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.0055	D1	0.100	0.114	D1	mg/L		108	70 - 130

Lab Sample ID: 550-184634-8 MS — **Client Sample ID: FC-CCR-MW21-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276873 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Molybdenum	<0.0050	D1	0.100	0.105	D1	mg/L		102	70 - 130

Lab Sample ID: 550-184634-8 MSD — **Client Sample ID: FC-CCR-MW21-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.0055	D1	0.100	0.116	D1	mg/L		111	70 - 130	2	20

Lab Sample ID: 550-184634-8 MSD — **Client Sample ID: FC-CCR-MW21-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276873 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Molybdenum	<0.0050	D1	0.100	0.107	D1	mg/L		104	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-275562/27
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 20:09	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1

Lab Sample ID: MB 550-275562/5
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 17:08	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1

Lab Sample ID: LCS 550-275562/26
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	256		mg/L		102	90 - 110		

Lab Sample ID: LCS 550-275562/4
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	253		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-275562/13
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	252		mg/L		101	90 - 110	0	20

Lab Sample ID: LCSD 550-275562/37
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	255		mg/L		102	90 - 110	0	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-184624-W-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	110			110		mg/L				0.4	20
Bicarbonate Alkalinity as CaCO3	110			110		mg/L				0.4	20
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Lab Sample ID: 550-184648-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	270			264		mg/L				0.5	20
Bicarbonate Alkalinity as CaCO3	270			264		mg/L				0.5	20
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275274/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275274/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	986		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-275274/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	970		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-184630-A-4 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	8300	D2		8170	D2	mg/L				2	10

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: MB 550-275298/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 12:23	1

Lab Sample ID: LCS 550-275298/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110		

Lab Sample ID: LCSD 550-275298/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	934		mg/L		93	90 - 110	7	10

Lab Sample ID: 550-184634-17 DU — **Client Sample ID: FC-CCR-MW82S-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000	D2		10100	D2	mg/L				0.3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-275986/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.907		SU		98.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275986/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.896		SU		98.5	98.5 - 101.5		

Lab Sample ID: 550-184630-A-13 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.31	H5		7.241	H5	SU				1	5
Temperature	10.7	H5		10.30	H5	Degrees C				4	

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-276198/1
Matrix: Water
Analysis Batch: 276198

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.920		SU		98.9	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-276198/13
Matrix: Water
Analysis Batch: 276198

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.930		SU		99.0	98.5 - 101.5		

Lab Sample ID: 550-184634-5 DU
Matrix: Water
Analysis Batch: 276198

Client Sample ID: FC-CCR-MW15-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.50	H5		7.520	H5	SU				0.3	5
Temperature	8.60	H5		9.400	H5	Degrees C				9	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

HPLC/IC

Analysis Batch: 275350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	300.0	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	300.0	
MB 550-275350/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275350/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275350/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184642-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184642-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	300.0	
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	300.0	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	300.0	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	300.0	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	300.0	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	300.0	
MB 550-275464/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275464/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275464/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184742-A-1 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-184742-A-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 275220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-1	FC-CCR-DMX01-0522	Total/NA	Water	200.7	
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7	
550-184634-3	FC-CCR-MW01-0522	Total/NA	Water	200.7	
550-184634-4	FC-CCR-MW03-0522	Total/NA	Water	200.7	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7	
550-184634-6	FC-CCR-FD05-0522	Total/NA	Water	200.7	
550-184634-7	FC-CCR-MW19-0522	Total/NA	Water	200.7	
550-184634-8	FC-CCR-MW21-0522	Total/NA	Water	200.7	
550-184634-9	FC-CCR-MW30-0522	Total/NA	Water	200.7	
550-184634-10	FC-CCR-FD06-0522	Total/NA	Water	200.7	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7	
550-184634-12	FC-CCR-MW60-0522	Total/NA	Water	200.7	
550-184634-13	FC-CCR-MW77S-0522	Total/NA	Water	200.7	
550-184634-14	FC-CCR-MW78S-0522	Total/NA	Water	200.7	
550-184634-15	FC-CCR-MW79S-0522	Total/NA	Water	200.7	
550-184634-16	FC-CCR-MW81-0522	Total/NA	Water	200.7	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.7	
550-184634-18	FC-CCR-FD07-0522	Total/NA	Water	200.7	
MB 550-275220/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275220/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275220/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184634-3 MS	FC-CCR-MW01-0522	Total/NA	Water	200.7	
550-184634-3 MSD	FC-CCR-MW01-0522	Total/NA	Water	200.7	
550-184634-8 MS	FC-CCR-MW21-0522	Total/NA	Water	200.7	
550-184634-8 MSD	FC-CCR-MW21-0522	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Metals

Prep Batch: 275260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-1	FC-CCR-DMX01-0522	Total/NA	Water	200.8	
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.8	
550-184634-3	FC-CCR-MW01-0522	Total/NA	Water	200.8	
550-184634-4	FC-CCR-MW03-0522	Total/NA	Water	200.8	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.8	
550-184634-6	FC-CCR-FD05-0522	Total/NA	Water	200.8	
550-184634-7	FC-CCR-MW19-0522	Total/NA	Water	200.8	
550-184634-9	FC-CCR-MW30-0522	Total/NA	Water	200.8	
550-184634-10	FC-CCR-FD06-0522	Total/NA	Water	200.8	
550-184634-12	FC-CCR-MW60-0522	Total/NA	Water	200.8	
550-184634-13	FC-CCR-MW77S-0522	Total/NA	Water	200.8	
550-184634-14	FC-CCR-MW78S-0522	Total/NA	Water	200.8	
550-184634-15	FC-CCR-MW79S-0522	Total/NA	Water	200.8	
550-184634-16	FC-CCR-MW81-0522	Total/NA	Water	200.8	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.8	
550-184634-18	FC-CCR-FD07-0522	Total/NA	Water	200.8	
MB 550-275260/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275260/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275260/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184634-3 MS	FC-CCR-MW01-0522	Total/NA	Water	200.8	
550-184634-3 MSD	FC-CCR-MW01-0522	Total/NA	Water	200.8	

Analysis Batch: 275779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-1	FC-CCR-DMX01-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-3	FC-CCR-MW01-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-4	FC-CCR-MW03-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-6	FC-CCR-FD05-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-7	FC-CCR-MW19-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-9	FC-CCR-MW30-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-12	FC-CCR-MW60-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-13	FC-CCR-MW77S-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-14	FC-CCR-MW78S-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-15	FC-CCR-MW79S-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-16	FC-CCR-MW81-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-18	FC-CCR-FD07-0522	Total/NA	Water	200.7 Rev 4.4	275220
MB 550-275220/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275220
LCS 550-275220/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275220
LCSD 550-275220/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-3 MS	FC-CCR-MW01-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-3 MSD	FC-CCR-MW01-0522	Total/NA	Water	200.7 Rev 4.4	275220

Analysis Batch: 275903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-1	FC-CCR-DMX01-0522	Total/NA	Water	200.8 LL	275260
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.8 LL	275260
550-184634-3	FC-CCR-MW01-0522	Total/NA	Water	200.8 LL	275260

Metals (Continued)

Analysis Batch: 275903 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-4	FC-CCR-MW03-0522	Total/NA	Water	200.8 LL	275260
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.8 LL	275260
550-184634-6	FC-CCR-FD05-0522	Total/NA	Water	200.8 LL	275260
MB 550-275260/1-A	Method Blank	Total/NA	Water	200.8 LL	275260
LCS 550-275260/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275260
LCSD 550-275260/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275260
550-184634-3 MS	FC-CCR-MW01-0522	Total/NA	Water	200.8 LL	275260
550-184634-3 MSD	FC-CCR-MW01-0522	Total/NA	Water	200.8 LL	275260

Analysis Batch: 275997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-8	FC-CCR-MW21-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-10	FC-CCR-FD06-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.7 Rev 4.4	275220
MB 550-275220/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275220
LCS 550-275220/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275220
LCSD 550-275220/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-8 MS	FC-CCR-MW21-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-8 MSD	FC-CCR-MW21-0522	Total/NA	Water	200.7 Rev 4.4	275220

Prep Batch: 276186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.8	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.8	
550-184634-8	FC-CCR-MW21-0522	Total/NA	Water	200.8	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.8	
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184634-8 MS	FC-CCR-MW21-0522	Total/NA	Water	200.8	
550-184634-8 MSD	FC-CCR-MW21-0522	Total/NA	Water	200.8	

Analysis Batch: 276505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-7	FC-CCR-MW19-0522	Total/NA	Water	200.8 LL	275260
550-184634-9	FC-CCR-MW30-0522	Total/NA	Water	200.8 LL	275260
550-184634-13	FC-CCR-MW77S-0522	Total/NA	Water	200.8 LL	275260
550-184634-14	FC-CCR-MW78S-0522	Total/NA	Water	200.8 LL	275260
550-184634-15	FC-CCR-MW79S-0522	Total/NA	Water	200.8 LL	275260
550-184634-16	FC-CCR-MW81-0522	Total/NA	Water	200.8 LL	275260
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.8 LL	275260
550-184634-18	FC-CCR-FD07-0522	Total/NA	Water	200.8 LL	275260

Metals

Analysis Batch: 276681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-10	FC-CCR-FD06-0522	Total/NA	Water	200.8 LL	275260
550-184634-12	FC-CCR-MW60-0522	Total/NA	Water	200.8 LL	275260

Analysis Batch: 276684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.8 LL	276186
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.8 LL	276186
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.8 LL	276186
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8 LL	276186
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276186
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276186

Analysis Batch: 276831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.8 LL	276186
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.8 LL	276186
550-184634-8	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.8 LL	276186
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.8 LL	276186
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8 LL	276186
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276186
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276186
550-184634-8 MS	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186
550-184634-8 MSD	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186

Analysis Batch: 276873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-8	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186
550-184634-8 MS	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186
550-184634-8 MSD	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186

Prep Batch: 577344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7	
MB 280-577344/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577344/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-577344/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-162601-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-162601-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 577835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7 Rev 4.4	577344
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7 Rev 4.4	577344
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7 Rev 4.4	577344
MB 280-577344/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577344
LCS 280-577344/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577344
LCSD 280-577344/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	577344
280-162601-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577344

Metals (Continued)

Analysis Batch: 577835 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162601-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577344

General Chemistry

Analysis Batch: 275274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	SM 2540C	
MB 550-275274/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275274/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275274/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184630-A-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	SM 2540C	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	SM 2540C	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	SM 2540C	
MB 550-275298/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275298/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275298/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184634-17 DU	FC-CCR-MW82S-0522	Total/NA	Water	SM 2540C	

Analysis Batch: 275562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	SM 2320B	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	SM 2320B	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	SM 2320B	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	SM 2320B	
MB 550-275562/27	Method Blank	Total/NA	Water	SM 2320B	
MB 550-275562/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-275562/26	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-275562/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-275562/13	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-275562/37	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-184624-W-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-184648-E-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 275986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184630-A-13 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 276198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	SM 4500 H+ B	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	SM 4500 H+ B	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 276198 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-5 DU	FC-CCR-MW15-0522	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX01-0522 — Lab Sample ID: 550-184634-1

Date Collected: 05/23/22 15:33 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:34	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 17:55	ARE	TAL PHX

Client Sample ID: FC-CCR-DMX06-0522 — Lab Sample ID: 550-184634-2

Date Collected: 05/24/22 13:26 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 20:30	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 21:44	AS1	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:36	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275997	06/02/22 22:25	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275997	06/02/22 22:49	MGM	TAL PHX
Total/NA	Prep	200.7			577344	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/11/22 01:46	MAB	TAL DEN
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 17:58	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:04	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276831	06/14/22 11:54	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 19:49	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:36	CXK	TAL PHX

Client Sample ID: FC-CCR-MW01-0522 — Lab Sample ID: 550-184634-3

Date Collected: 05/23/22 10:05 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:23	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 17:47	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW03-0522

Lab Sample ID: 550-184634-4
Date Collected: 05/23/22 10:50
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:39	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 18:00	ARE	TAL PHX

Client Sample ID: FC-CCR-MW15-0522

Lab Sample ID: 550-184634-5
Date Collected: 05/24/22 14:16
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275350	05/26/22 20:14	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275350	05/26/22 21:38	AS1	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:41	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275997	06/02/22 22:28	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275997	06/02/22 22:51	MGM	TAL PHX
Total/NA	Prep	200.7			577344	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/11/22 01:50	MAB	TAL DEN
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 18:02	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:06	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276831	06/14/22 11:56	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 18:43	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Client Sample ID: FC-CCR-FD05-0522

Lab Sample ID: 550-184634-6
Date Collected: 05/23/22 10:05
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:44	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 18:04	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW19-0522 — Lab Sample ID: 550-184634-7

Date Collected: 05/23/22 16:30 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:47	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:03	ARE	TAL PHX

Client Sample ID: FC-CCR-MW21-0522 — Lab Sample ID: 550-184634-8

Date Collected: 05/23/22 11:35 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275997	06/02/22 22:46	MGM	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276831	06/14/22 11:17	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	276873	06/14/22 15:16	ARE	TAL PHX

Client Sample ID: FC-CCR-MW30-0522 — Lab Sample ID: 550-184634-9

Date Collected: 05/23/22 13:10 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:49	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:05	ARE	TAL PHX

Client Sample ID: FC-CCR-FD06-0522 — Lab Sample ID: 550-184634-10

Date Collected: 05/23/22 11:35 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275997	06/02/22 22:54	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276681	06/09/22 18:30	ARE	TAL PHX

Client Sample ID: FC-CCR-MW57-0522 — Lab Sample ID: 550-184634-11

Date Collected: 05/24/22 10:38 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 20:48	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 22:02	AS1	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:00	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW57-0522 — Lab Sample ID: 550-184634-11

Date Collected: 05/24/22 10:38 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275997	06/02/22 22:31	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275997	06/02/22 22:57	MGM	TAL PHX
Total/NA	Prep	200.7			577344	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/11/22 01:54	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:08	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:23	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276831	06/14/22 11:58	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 21:04	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Client Sample ID: FC-CCR-MW60-0522 — Lab Sample ID: 550-184634-12

Date Collected: 05/23/22 09:20 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:02	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276681	06/09/22 18:32	ARE	TAL PHX

Client Sample ID: FC-CCR-MW77S-0522 — Lab Sample ID: 550-184634-13

Date Collected: 05/23/22 11:32 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:05	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:11	ARE	TAL PHX

Client Sample ID: FC-CCR-MW78S-0522 — Lab Sample ID: 550-184634-14

Date Collected: 05/23/22 13:48 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:07	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW78S-0522 — Lab Sample ID: 550-184634-14

Date Collected: 05/23/22 13:48 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:13	ARE	TAL PHX

Client Sample ID: FC-CCR-MW79S-0522 — Lab Sample ID: 550-184634-15

Date Collected: 05/23/22 15:00 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:10	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:15	ARE	TAL PHX

Client Sample ID: FC-CCR-MW81-0522 — Lab Sample ID: 550-184634-16

Date Collected: 05/23/22 14:28 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:13	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:17	ARE	TAL PHX

Client Sample ID: FC-CCR-MW82S-0522 — Lab Sample ID: 550-184634-17

Date Collected: 05/23/22 15:58 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 21:07	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 22:20	AS1	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:15	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275997	06/02/22 22:33	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275997	06/02/22 22:59	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:20	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 21:14	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-FD07-0522

Date Collected: 05/23/22 11:32
Date Received: 05/25/22 14:00

Lab Sample ID: 550-184634-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:18	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276505	06/09/22 15:31	ARE	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

184634

Chain of Custody Record

550-184634 Chain of Custody

erica
IENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 3 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Fe)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as	Sample Specific Notes
FC-CCR-DMX01-0522 -01	5/23/2022	15:33	G	W	1	N			X							X					Low Flow
FC-CCR-DMX06-0522 -02	5/24/2022	13:26	G	W	2	N		X						X	X			X	X	X	"
FC-CCR-MW01-0522 -03	5/23/2022	10:05	G	W	3	N	Y		X							X					Low Flow, MS + MSD included
FC-CCR-MW03-0522 -04	5/23/2022	10:50	G	W	1	N			X							X					Low Flow
FC-CCR-MW15-0522 -05	5/24/2022	14:16	G	W	2	N		X						X	X			X	X	X	"
FC-CCR-FD05-0522 -06	5/23/2022	10:05	G	W	1	N			X							X					"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	4	4	4	4	4	4	4	4	4	1	1	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C, 0.4°C 1LF PL

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood	05/25/22 09:00	[signature]	American Hotshot	6-25-22 7:35
[signature]	American Hotshot	5-25-22 14:00			
			Received in Laboratory by: [signature]	Company: Eco Dry	5-25-22 1400

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

6/17/2022

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

184634

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 3 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	Sample Specific Notes:
FC-CCR-MW19-0522 -07	5/23/2022	16:30	G	W	1	N	N		X							X					Low Flow
FC-CCR-MW21-0522 -08	5/23/2022	11:35	G	W	3	N	Y		X							X					Low Flow, MS + MSD included
FC-CCR-MW30-0522 -09	5/23/2022	13:10	G	W	1	N	N		X							X					Low Flow
FC-CCR-FD06-0522 -10	5/23/2022	11:35	G	W	1	N	N		X							X					"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	4	4	4	4	4	4	4	4	4	1	1	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.3°C, 0.4°C ICE PC

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WDC	05/25/22 07:00	[signature]	American Hotshot	5-25-22 7:35
Relinquished by: [signature]	Company: American Hotshot	Date/Time: 5-25-22 14:00	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: Estrella	Date/Time: 5-25-22 1400

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

184634

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

6/17/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	3 of 3 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Mn, Fe)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as				Sample Specific Notes:
FC-CCR-MW57-0522 -11	5/24/2022	10:38	G	W	2	N		X						X	X			X	X	X				Low Flow
FC-CCR-MW60-0522 -12	5/23/2022	9:20	G	W	1	N			X							X								"
FC-CCR-MW77S-0522 -13	5/23/2022	11:32	G	W	1	N			X							X								"
FC-CCR-MW78S-0522 -14	5/23/2022	13:48	G	W	1	N	N		X							X								"
FC-CCR-MW79S-0522 -15	5/23/2022	15:00	G	W	1	N			X							X								"
FC-CCR-MW81-0522 -16	5/23/2022	14:28	G	W	1	N			X							X								"
FC-CCR-MW82S-0522 -17	5/23/2022	15:58	G	W	2	N		X				X				X		X	X	X				Port Sample
FC-CCR-FD07-0522 -18	5/23/2022	11:32	G	W	1	N	N		X							X								Low Flow
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	4	4	1	1	1				

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☑ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C, 0.4°C IUF PL

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Wood	05/25/22 07:00		American Hotshot	5-25-22 7:35
Relinquished by:	Company: American Hotshot	Date/Time: 5-25-22 14:00	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EEM PHX	Date/Time: 5-26-22 1400

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34095.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184634-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/8/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Four Corners CCR	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-DMX06-0522 (550-184634-2)	5/24/22	13:26 Arizona		Water			X	1	AZ Sample
FC-CCR-MW15-0522 (550-184634-5)	5/23/22	14:16 Arizona		Water			X	1	AZ Sample
FC-CCR-MW57-0522 (550-184634-11)	5/24/22	10:38 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible]	5-24-22 1500	EEM DMX	EEM RX		
Relinquished by: FedEx	Date/Time:	Company	Received by: [illegible]	Date/Time: 5/27/22 1000	Company ETAZW
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 8.2 7 IR12 CF10.1

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184634-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 184634
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184634-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 184634
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 05/28/22 09:45 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184772-1
Laboratory SDG: APS Four Corners Power Plant (Other)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/17/2022 12:35:33 PM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
B7	Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above the concentration found in the blank.
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184772-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative

Job Narrative
550-184772-1

Comments
No additional comments.

Receipt
The samples were received on 5/27/2022 2:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.2º C, 0.6º C and 0.8º C.

HPLC/IC
Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 550-275566 were outside control limits for Chloride. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 550-275567 were outside control limits for Fluoride, Chloride and Sulfate. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recoveries were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-275780 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. FC-CCR-MW17R-0522 (550-184772-7), FC-CCR-MW18-0522 (550-184772-8), FC-CCR-MW23R-0522 (550-184772-9), FC-CCR-MW24-0522 (550-184772-10), FC-CCR-MW36R-0522 (550-184772-11) and FC-CCR-MW38R-0522 (550-184772-12)

Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-275782 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. FC-CCR-DMX03-0522 (550-184772-1), FC-CCR-DMX04-0522 (550-184772-2), FC-CCR-MW05-0522 (550-184772-3), FC-CCR-MW06-0522 (550-184772-4) and FC-CCR-MW16-0522 (550-184772-6).

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: FC-CCR-MW17R-0522 (550-184772-7), FC-CCR-MW18-0522 (550-184772-8), FC-CCR-MW23R-0522 (550-184772-9), FC-CCR-MW24-0522 (550-184772-10), FC-CCR-MW36R-0522 (550-184772-11) and FC-CCR-MW38R-0522 (550-184772-12). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184772-1	FC-CCR-DMX03-0522	Water	05/25/22 11:25	05/27/22 14:05
550-184772-2	FC-CCR-DMX04-0522	Water	05/25/22 13:50	05/27/22 14:05
550-184772-3	FC-CCR-MW05-0522	Water	05/25/22 12:15	05/27/22 14:05
550-184772-4	FC-CCR-MW06-0522	Water	05/25/22 15:30	05/27/22 14:05
550-184772-5	FC-CCR-MW11-0522	Water	05/26/22 12:28	05/27/22 14:05
550-184772-6	FC-CCR-MW16-0522	Water	05/26/22 14:15	05/27/22 14:05
550-184772-7	FC-CCR-MW17R-0522	Water	05/25/22 16:25	05/27/22 14:05
550-184772-8	FC-CCR-MW18-0522	Water	05/25/22 13:05	05/27/22 14:05
550-184772-9	FC-CCR-MW23R-0522	Water	05/25/22 09:58	05/27/22 14:05
550-184772-10	FC-CCR-MW24-0522	Water	05/25/22 14:50	05/27/22 14:05
550-184772-11	FC-CCR-MW36R-0522	Water	05/25/22 10:40	05/27/22 14:05
550-184772-12	FC-CCR-MW38R-0522	Water	05/25/22 17:25	05/27/22 14:05
550-184772-13	FC-CCR-SUMP1-0522	Water	05/26/22 08:00	05/27/22 14:05
550-184772-14	FC-CCR-SUMP2-0522	Water	05/26/22 08:11	05/27/22 14:05
550-184772-15	FC-CCR-SUMP3-0522	Water	05/26/22 08:30	05/27/22 14:05
550-184772-16	FC-CCR-SUMP7-0522	Water	05/26/22 08:38	05/27/22 14:05
550-184772-17	FC-CCR-SUMP9-0522	Water	05/26/22 08:48	05/27/22 14:05
550-184772-18	FC-CCR-SUMP10-0522	Water	05/26/22 09:00	05/27/22 14:05
550-184772-19	FC-CCR-SUMP11-0522	Water	05/26/22 09:08	05/27/22 14:05
550-184772-20	FC-CCR-SUMP12-0522	Water	05/26/22 09:18	05/27/22 14:05
550-184772-21	FC-CCR-SUMP13-0522	Water	05/26/22 09:28	05/27/22 14:05
550-184772-22	FC-CCR-SUMP14-0522	Water	05/26/22 09:38	05/27/22 14:05
550-184772-23	FC-CCR-SUMP15-0522	Water	05/26/22 09:45	05/27/22 14:05
550-184772-24	FC-CCR-SUMP16-0522	Water	05/26/22 09:50	05/27/22 14:05
550-184772-25	FC-CCR-SUMP17-0522	Water	05/26/22 10:00	05/27/22 14:05
550-184772-26	FC-CCR-SUMP18-0522	Water	05/26/22 10:10	05/27/22 14:05

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX03-0522 — Lab Sample ID: 550-184772-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2 M1	400		mg/L	200		300.0	Total/NA
Sulfate	28000	D2 M3	400		mg/L	200		300.0	Total/NA
Lithium	1.2		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.77		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.24		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2000	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA
Manganese	0.53		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	66		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3200	D2	5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00026	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0015	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0075	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00048	D1	0.00040		mg/L	4		200.8 LL	Total/NA
Alkalinity as CaCO3	860		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	860		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	21000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.53	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.8	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-DMX04-0522 — Lab Sample ID: 550-184772-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	860	D2	400		mg/L	200		300.0	Total/NA
Fluoride	0.88	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	16000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.67		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.4		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	450		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	780		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.25		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	37		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800	D2	2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.0087	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0061	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	340		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	340		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	10000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.76	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.4	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW05-0522 — Lab Sample ID: 550-184772-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	8700	D2	400		mg/L	200		300.0	Total/NA
Sulfate	34000	D2	400		mg/L	200		300.0	Total/NA
Lithium	2.2		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.1		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	530		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.24		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1300	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW05-0522 (Continued) — Lab Sample ID: 550-184772-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Manganese	1.6		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	94		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	6700	D2	5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Cobalt	0.0068	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0017	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	890		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	890		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	20000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.49	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	15.4	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW06-0522 — Lab Sample ID: 550-184772-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	5800	D2	400		mg/L	200		300.0	Total/NA
Sulfate	21000	D2	2000		mg/L	1000		300.0	Total/NA
Lithium	2.1		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	6.0		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	510	D1	20		mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	1800	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	65	D1	5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Sodium	8800	D2	10		mg/L	20		200.7 Rev 4.4	Total/NA
Barium	0.014	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0035	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0024	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	660		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	660		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	25000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.59	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	14.9	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW11-0522 — Lab Sample ID: 550-184772-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	7900	D2	400		mg/L	200		300.0	Total/NA
Sulfate	62000	D2	10000		mg/L	5000		300.0	Total/NA
Calcium	560	D1	40		mg/L	20		200.7 Rev 4.4	Total/NA
Magnesium	11000	D2	40		mg/L	20		200.7 Rev 4.4	Total/NA
Potassium	170	D1	10		mg/L	20		200.7 Rev 4.4	Total/NA
Sodium	17000	D2	25		mg/L	50		200.7 Rev 4.4	Total/NA
Cobalt	0.022	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Alkalinity as CaCO3	870		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	870		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	85000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.12	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW16-0522 — Lab Sample ID: 550-184772-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400		mg/L	200		300.0	Total/NA
Sulfate	22000	D2	400		mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW16-0522 (Continued) — Lab Sample ID: 550-184772-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	1.2		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	8.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.15		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1500	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	60		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3500	D2	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.019	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0067	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.032	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Thallium	0.00041	D1	0.00040	mg/L	4		200.8 LL	Total/NA
Alkalinity as CaCO3	600		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	600		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.48	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW17R-0522 — Lab Sample ID: 550-184772-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	400	D2	4.0	mg/L	2		300.0	Total/NA
Sulfate	8500	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.42		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	34		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.84		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1200		1.0	mg/L	2		200.7 Rev 4.4	Total/NA
Barium	0.016	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cadmium	0.0014	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Cobalt	0.057	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Lead	0.0014	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0011	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6500	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.47	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW18-0522 — Lab Sample ID: 550-184772-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9200	D2	400	mg/L	200		300.0	Total/NA
Sulfate	37000	D2	400	mg/L	200		300.0	Total/NA
Lithium	2.3		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.35		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1100		20	mg/L	10		200.7 Rev 4.4	Total/NA
Manganese	2.7		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	96		0.50	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW18-0522 (Continued) — Lab Sample ID: 550-184772-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sodium	7600		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Cobalt	0.0098	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0017	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	950		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	950		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	25000	D2	1000	mg/L	1		SM 2540C	Total/NA
pH	7.38	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW23R-0522 — Lab Sample ID: 550-184772-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	770	D2	400	mg/L	200		300.0	Total/NA
Sulfate	9400	D2	400	mg/L	200		300.0	Total/NA
Lithium	1.0		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	13		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.14		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1300		10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	40		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Molybdenum	0.0036	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.44	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW24-0522 — Lab Sample ID: 550-184772-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5000	D2	400	mg/L	200		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Lithium	1.5		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.94		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	190		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	46		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	7300		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Cobalt	0.0023	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.028	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	290		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	290		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000	D2	1000	mg/L	1		SM 2540C	Total/NA
pH	7.68	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.8	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW36R-0522 — Lab Sample ID: 550-184772-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	460	D2	400	mg/L	200		300.0	Total/NA
Sulfate	3900	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.62		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	51		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	400		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.15		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	25		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		1.0	mg/L	2		200.7 Rev 4.4	Total/NA
Cobalt	0.21	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	220		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	220		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.50	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.1	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW38R-0522 — Lab Sample ID: 550-184772-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	310	D2	4.0	mg/L	2		300.0	Total/NA
Sulfate	4600	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.39		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	27		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.64		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	270		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.020		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1000		1.0	mg/L	2		200.7 Rev 4.4	Total/NA
Barium	0.016	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cobalt	0.26	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.019	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.0027	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6200	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.45	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SUMP1-0522 — Lab Sample ID: 550-184772-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	560	D2	100	mg/L	50		300.0	Total/NA
Boron	68		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.14		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	550		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.011		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.059	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.11	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8400	D2	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP2-0522 — Lab Sample ID: 550-184772-14

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	920	D2 M1	100		mg/L	50		300.0	Total/NA
Boron	34		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	5.4		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	470		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.15		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0015	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0042	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7600	D2	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP3-0522 — Lab Sample ID: 550-184772-15

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	100		mg/L	50		300.0	Total/NA
Boron	36		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.20		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1200	D2	4.0		mg/L	2		200.7 Rev 4.4	Total/NA
Manganese	0.75		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0024	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.013	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Total Dissolved Solids	21000	D2	200		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP7-0522 — Lab Sample ID: 550-184772-16

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	100		mg/L	50		300.0	Total/NA
Boron	57	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.33		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	840		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.073		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.067	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0039	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	11000	D2	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP9-0522 — Lab Sample ID: 550-184772-17

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	890	D2	100		mg/L	50		300.0	Total/NA
Boron	30	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	3.2		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	780		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.021	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	10000	D2	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP10-0522 — Lab Sample ID: 550-184772-18

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	900	D2	100		mg/L	50		300.0	Total/NA
Boron	52	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.015		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.18	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7700	D2	100		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP11-0522 — Lab Sample ID: 550-184772-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	950	D2	100	mg/L	50		300.0	Total/NA
Boron	51	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.58		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.018		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.18	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7800	D2	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP12-0522 — Lab Sample ID: 550-184772-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	900	D2	100	mg/L	50		300.0	Total/NA
Boron	38	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.71		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	580		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.084	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8900	D2	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP13-0522 — Lab Sample ID: 550-184772-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	710	D2	100	mg/L	50		300.0	Total/NA
Boron	51	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.18	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7100	D2	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP14-0522 — Lab Sample ID: 550-184772-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	710	D2	100	mg/L	50		300.0	Total/NA
Boron	50	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.17	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0013	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7800	D2	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP15-0522 — Lab Sample ID: 550-184772-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	100	mg/L	50		300.0	Total/NA
Boron	15	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.27		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1500	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	0.031	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0019	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	19000	D2	200	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP16-0522 — Lab Sample ID: 550-184772-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4000	D2	200	mg/L	100		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-SUMP16-0522 (Continued) — Lab Sample ID: 550-184772-24

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	13	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.26		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2100	D2	10		mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	0.025	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0020	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Total Dissolved Solids	27000	D2	1000		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP17-0522 — Lab Sample ID: 550-184772-25

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	3100	D2	200		mg/L	100		300.0	Total/NA
Boron	5.8	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.37		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	3200	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA
Molybdenum	0.0030	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Total Dissolved Solids	30000	D2	1000		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP18-0522 — Lab Sample ID: 550-184772-26

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	200		mg/L	100		300.0	Total/NA
Boron	5.6	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.35		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	3300	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA
Manganese	0.035		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Molybdenum	0.0032	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Total Dissolved Solids	31000	D2	1000		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX03-0522

Lab Sample ID: 550-184772-1
Date Collected: 05/25/22 11:25
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2 M1	400	mg/L			05/28/22 12:13	200
Fluoride	<0.80	D1 M2	0.80	mg/L			05/28/22 10:50	2
Sulfate	28000	D2 M3	400	mg/L			05/28/22 12:13	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 19:52	06/01/22 19:59	1
Lithium	1.2		0.020	mg/L		06/12/22 12:41	06/14/22 21:36	1
Boron	0.77		0.050	mg/L		05/31/22 19:52	06/01/22 19:59	1
Calcium	490		2.0	mg/L		05/31/22 19:52	06/06/22 20:24	1
Iron	0.24		0.10	mg/L		05/31/22 19:52	06/06/22 20:24	1
Magnesium	2000	D2	20	mg/L		05/31/22 19:52	06/06/22 20:21	10
Manganese	0.53		0.010	mg/L		05/31/22 19:52	06/06/22 20:24	1
Potassium	66		0.50	mg/L		05/31/22 19:52	06/06/22 20:24	1
Sodium	3200	D2	5.0	mg/L		05/31/22 19:52	06/06/22 20:21	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:41	2
Arsenic	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:09	2
Barium	0.016	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:41	2
Cadmium	0.00026	D1	0.00020	mg/L		05/31/22 20:34	06/07/22 14:41	2
Chromium	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:41	2
Cobalt	0.0015	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:41	2
Lead	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:41	2
Molybdenum	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:41	2
Selenium	0.0075	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:09	2
Thallium	0.00048	D1	0.00040	mg/L		05/31/22 20:34	06/13/22 11:37	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	860		6.0	mg/L			06/02/22 17:42	1
Bicarbonate Alkalinity as CaCO3	860		6.0	mg/L			06/02/22 17:42	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:42	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 17:42	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:42	1
Total Dissolved Solids	21000	D2	200	mg/L			05/27/22 17:04	1
pH	7.53	H5	1.68	SU			06/07/22 11:19	1
Temperature	13.8	H5	0.100	Degrees C			06/07/22 11:19	1

Client Sample ID: FC-CCR-DMX04-0522

Lab Sample ID: 550-184772-2
Date Collected: 05/25/22 13:50
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	860	D2	400	mg/L			05/28/22 14:05	200
Fluoride	0.88	D1	0.80	mg/L			05/28/22 13:37	2
Sulfate	16000	D2	400	mg/L			05/28/22 14:05	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX04-0522

Lab Sample ID: 550-184772-2
Date Collected: 05/25/22 13:50
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 19:52	06/01/22 20:02	1
Lithium	**0.67**		0.020	mg/L		06/12/22 12:41	06/14/22 21:40	1
Boron	**1.4**		0.050	mg/L		05/31/22 19:52	06/01/22 20:02	1
Calcium	**450**		2.0	mg/L		05/31/22 19:52	06/06/22 20:29	1
Iron	<0.10		0.10	mg/L		05/31/22 19:52	06/06/22 20:29	1
Magnesium	**780**		2.0	mg/L		05/31/22 19:52	06/06/22 20:29	1
Manganese	**0.25**		0.010	mg/L		05/31/22 19:52	06/06/22 20:29	1
Potassium	**37**		0.50	mg/L		05/31/22 19:52	06/06/22 20:29	1
Sodium	**1800**	**D2**	2.5	mg/L		05/31/22 19:52	06/06/22 20:26	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:43	2
Arsenic	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:11	2
Barium	**0.0087**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:43	2
Cadmium	<0.00020	D1	0.00020	mg/L		05/31/22 20:34	06/07/22 14:43	2
Chromium	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:43	2
Cobalt	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:43	2
Lead	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:43	2
Molybdenum	**0.0061**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:43	2
Selenium	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:11	2
Thallium	<0.00040	D1	0.00040	mg/L		05/31/22 20:34	06/13/22 11:39	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**340**		6.0	mg/L			06/02/22 17:02	1
Bicarbonate Alkalinity as CaCO3	**340**		6.0	mg/L			06/02/22 17:02	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:02	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 17:02	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:02	1
Total Dissolved Solids	**10000**	**D2**	100	mg/L			05/27/22 17:04	1
pH	**7.76**	**H5**	1.68	SU			06/03/22 14:43	1
Temperature	**11.4**	**H5**	0.100	Degrees C			06/03/22 14:43	1

Client Sample ID: FC-CCR-MW05-0522

Lab Sample ID: 550-184772-3
Date Collected: 05/25/22 12:15
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8700**	**D2**	400	mg/L			05/28/22 15:01	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 14:33	2
Sulfate	**34000**	**D2**	400	mg/L			05/28/22 15:01	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 19:52	06/01/22 20:04	1
Lithium	**2.2**		0.020	mg/L		06/12/22 12:41	06/14/22 21:44	1
Boron	**1.1**		0.050	mg/L		05/31/22 19:52	06/01/22 20:04	1
Calcium	**530**		2.0	mg/L		05/31/22 19:52	06/06/22 20:34	1
Iron	**0.24**		0.10	mg/L		05/31/22 19:52	06/06/22 20:34	1

Client Sample ID: FC-CCR-MW05-0522

Lab Sample ID: 550-184772-3

Date Collected: 05/25/22 12:15
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	1300	D2	20	mg/L		05/31/22 19:52	06/06/22 20:31	10
Manganese	1.6		0.010	mg/L		05/31/22 19:52	06/06/22 20:34	1
Potassium	94		0.50	mg/L		05/31/22 19:52	06/06/22 20:34	1
Sodium	6700	D2	5.0	mg/L		05/31/22 19:52	06/06/22 20:31	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0068	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:45	2
Molybdenum	0.0017	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:45	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	890		6.0	mg/L			06/02/22 17:10	1
Bicarbonate Alkalinity as CaCO3	890		6.0	mg/L			06/02/22 17:10	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:10	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 17:10	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:10	1
Total Dissolved Solids	20000	D2	1000	mg/L			05/27/22 17:04	1
pH	7.49	H5	1.68	SU			06/03/22 14:49	1
Temperature	15.4	H5	0.100	Degrees C			06/03/22 14:49	1

Client Sample ID: FC-CCR-MW06-0522

Lab Sample ID: 550-184772-4

Date Collected: 05/25/22 15:30
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5800	D2	400	mg/L			05/28/22 16:53	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 16:25	2
Sulfate	21000	D2	2000	mg/L			05/31/22 13:38	1000

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 19:52	06/01/22 20:07	1
Lithium	2.1		0.020	mg/L		06/12/22 12:41	06/14/22 22:04	1
Boron	6.0		0.050	mg/L		05/31/22 19:52	06/01/22 20:07	1
Calcium	510	D1	20	mg/L		05/31/22 19:52	06/06/22 20:37	10
Iron	<1.0	D1	1.0	mg/L		05/31/22 19:52	06/06/22 20:37	10
Magnesium	1800	D2	20	mg/L		05/31/22 19:52	06/06/22 20:37	10
Manganese	<0.10	D1	0.10	mg/L		05/31/22 19:52	06/06/22 20:37	10
Potassium	65	D1	5.0	mg/L		05/31/22 19:52	06/06/22 20:37	10
Sodium	8800	D2	10	mg/L		05/31/22 19:52	06/07/22 17:39	20

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:47	2
Arsenic	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:13	2
Barium	0.014	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:47	2
Cadmium	<0.00020	D1	0.00020	mg/L		05/31/22 20:34	06/07/22 14:47	2
Chromium	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:47	2
Cobalt	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:47	2

Client Sample ID: FC-CCR-MW06-0522

Lab Sample ID: 550-184772-4

Date Collected: 05/25/22 15:30
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0010	D1	0.0010		mg/L		05/31/22 20:34	06/07/22 14:47	2
Molybdenum	**0.0035**	**D1**	0.0010		mg/L		05/31/22 20:34	06/07/22 14:47	2
Selenium	**0.0024**	**D1**	0.0010		mg/L		05/31/22 20:34	06/09/22 18:13	2
Thallium	<0.00020	D1	0.00020		mg/L		05/31/22 20:34	06/13/22 10:10	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**660**		6.0		mg/L			06/02/22 17:24	1
Bicarbonate Alkalinity as CaCO3	**660**		6.0		mg/L			06/02/22 17:24	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 17:24	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			06/02/22 17:24	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 17:24	1
Total Dissolved Solids	**25000**	**D2**	1000		mg/L			05/27/22 17:04	1
pH	**7.59**	**H5**	1.68		SU			06/03/22 14:52	1
Temperature	**14.9**	**H5**	0.100		Degrees C			06/03/22 14:52	1

Client Sample ID: FC-CCR-MW11-0522

Lab Sample ID: 550-184772-5

Date Collected: 05/26/22 12:28
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7900**	**D2**	400		mg/L			05/28/22 17:49	200
Fluoride	<0.80	D1	0.80		mg/L			05/28/22 17:21	2
Sulfate	**62000**	**D2**	10000		mg/L			05/31/22 13:19	5000

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	<1.0	D1	1.0		mg/L		05/31/22 19:52	06/06/22 20:42	20
Calcium	**560**	**D1**	40		mg/L		05/31/22 19:52	06/06/22 20:42	20
Magnesium	**11000**	**D2**	40		mg/L		05/31/22 19:52	06/06/22 20:42	20
Potassium	**170**	**D1**	10		mg/L		05/31/22 19:52	06/06/22 20:42	20
Sodium	**17000**	**D2**	25		mg/L		05/31/22 19:52	06/07/22 17:42	50

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.022**	**D1**	0.0020		mg/L		06/01/22 08:40	06/15/22 09:25	4
Molybdenum	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/15/22 09:25	4

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**870**		6.0		mg/L			06/02/22 19:03	1
Bicarbonate Alkalinity as CaCO3	**870**		6.0		mg/L			06/02/22 19:03	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:03	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			06/02/22 19:03	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:03	1
Total Dissolved Solids	**85000**	**D2**	1000		mg/L			06/01/22 16:31	1
pH	**7.12**	**H5**	1.68		SU			06/03/22 14:54	1
Temperature	**13.3**	**H5**	0.100		Degrees C			06/03/22 14:54	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW16-0522

Lab Sample ID: 550-184772-6
Matrix: Water

Date Collected: 05/26/22 14:15
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**	**D2**	400		mg/L			05/28/22 18:44	200
Fluoride	<0.80	D1	0.80		mg/L			05/28/22 18:16	2
Sulfate	**22000**	**D2**	400		mg/L			05/28/22 18:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010		mg/L		05/31/22 19:52	06/01/22 20:12	1
Lithium	**1.2**		0.020		mg/L		06/12/22 12:41	06/14/22 22:08	1
Boron	**8.5**		0.050		mg/L		05/31/22 19:52	06/01/22 20:12	1
Calcium	**480**		2.0		mg/L		05/31/22 19:52	06/06/22 20:55	1
Iron	**0.15**		0.10		mg/L		05/31/22 19:52	06/06/22 20:55	1
Magnesium	**1500**	**D2**	20		mg/L		05/31/22 19:52	06/06/22 20:52	10
Potassium	**60**		0.50		mg/L		05/31/22 19:52	06/06/22 20:55	1
Sodium	**3500**	**D2**	5.0		mg/L		05/31/22 19:52	06/06/22 20:52	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/14/22 12:45	2
Arsenic	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:45	2
Barium	**0.019**	**D1**	0.0010		mg/L		06/01/22 08:40	06/14/22 12:45	2
Cadmium	<0.00020	D1	0.00020		mg/L		06/01/22 08:40	06/14/22 12:45	2
Chromium	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/14/22 12:45	2
Cobalt	**0.0067**	**D1**	0.0010		mg/L		06/01/22 08:40	06/14/22 12:45	2
Lead	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/14/22 12:49	4
Molybdenum	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:45	2
Selenium	**0.032**	**D1**	0.0010		mg/L		06/01/22 08:40	06/14/22 12:45	2
Thallium	**0.00041**	**D1**	0.00040		mg/L		06/01/22 08:40	06/14/22 12:49	4

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**600**		6.0		mg/L			06/02/22 19:22	1
Bicarbonate Alkalinity as CaCO3	**600**		6.0		mg/L			06/02/22 19:22	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:22	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			06/02/22 19:22	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:22	1
Total Dissolved Solids	**19000**	**D2**	200		mg/L			05/31/22 15:30	1
pH	**7.48**	**H5**	1.68		SU			06/03/22 14:56	1
Temperature	**12.3**	**H5**	0.100		Degrees C			06/03/22 14:56	1

Client Sample ID: FC-CCR-MW17R-0522

Lab Sample ID: 550-184772-7
Matrix: Water

Date Collected: 05/25/22 16:25
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**400**	**D2**	4.0		mg/L			05/28/22 19:12	2
Fluoride	<0.80	D1	0.80		mg/L			05/28/22 19:12	2
Sulfate	**8500**	**D2**	400		mg/L			05/28/22 19:40	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW17R-0522

Lab Sample ID: 550-184772-7
Date Collected: 05/25/22 16:25
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:07	1
Lithium	**0.42**		0.020	mg/L		06/12/22 12:41	06/14/22 22:12	1
Boron	**34**		0.050	mg/L		05/31/22 16:29	06/01/22 18:07	1
Calcium	**440**		2.0	mg/L		05/31/22 16:29	06/01/22 18:07	1
Iron	<0.10		0.10	mg/L		05/31/22 16:29	06/03/22 08:48	1
Magnesium	**280**		2.0	mg/L		05/31/22 16:29	06/01/22 18:07	1
Manganese	**0.84**		0.010	mg/L		05/31/22 16:29	06/03/22 08:48	1
Potassium	**20**		0.50	mg/L		05/31/22 16:29	06/03/22 08:48	1
Sodium	**1200**		1.0	mg/L		05/31/22 16:29	06/03/22 08:45	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:49	2
Arsenic	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:16	2
Barium	**0.016**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:49	2
Cadmium	**0.0014**	**D1**	0.00020	mg/L		05/31/22 20:34	06/07/22 14:49	2
Chromium	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:49	2
Cobalt	**0.057**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:49	2
Lead	**0.0014**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:49	2
Molybdenum	**0.0011**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:49	2
Selenium	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:16	2
Thallium	<0.00020	D1	0.00020	mg/L		05/31/22 20:34	06/13/22 10:12	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**130**		6.0	mg/L			06/02/22 17:55	1
Bicarbonate Alkalinity as CaCO3	**130**		6.0	mg/L			06/02/22 17:55	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:55	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 17:55	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:55	1
Total Dissolved Solids	**6500**	**D2**	100	mg/L			05/27/22 17:04	1
pH	**7.47**	**H5**	1.68	SU			06/03/22 14:59	1
Temperature	**11.9**	**H5**	0.100	Degrees C			06/03/22 14:59	1

Client Sample ID: FC-CCR-MW18-0522

Lab Sample ID: 550-184772-8
Date Collected: 05/25/22 13:05
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9200**	**D2**	400	mg/L			05/28/22 20:36	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 20:08	2
Sulfate	**37000**	**D2**	400	mg/L			05/28/22 20:36	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:10	1
Lithium	**2.3**		0.020	mg/L		06/12/22 12:41	06/14/22 22:16	1
Boron	**1.2**		0.050	mg/L		05/31/22 16:29	06/01/22 18:10	1
Calcium	**470**		2.0	mg/L		05/31/22 16:29	06/01/22 18:10	1
Iron	**0.35**		0.10	mg/L		05/31/22 16:29	06/03/22 08:58	1

Client Sample ID: FC-CCR-MW18-0522

Lab Sample ID: 550-184772-8
Date Collected: 05/25/22 13:05
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	1100		20	mg/L		05/31/22 16:29	06/03/22 08:55	10
Manganese	2.7		0.010	mg/L		05/31/22 16:29	06/03/22 08:58	1
Potassium	96		0.50	mg/L		05/31/22 16:29	06/03/22 08:58	1
Sodium	7600		5.0	mg/L		05/31/22 16:29	06/03/22 08:55	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0098	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:58	2
Molybdenum	0.0017	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:58	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	950		6.0	mg/L			06/02/22 18:02	1
Bicarbonate Alkalinity as CaCO3	950		6.0	mg/L			06/02/22 18:02	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:02	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 18:02	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:02	1
Total Dissolved Solids	25000	D2	1000	mg/L			05/27/22 17:04	1
pH	7.38	H5	1.68	SU			06/03/22 15:01	1
Temperature	12.1	H5	0.100	Degrees C			06/03/22 15:01	1

Client Sample ID: FC-CCR-MW23R-0522

Lab Sample ID: 550-184772-9
Date Collected: 05/25/22 09:58
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	770	D2	400	mg/L			05/28/22 22:28	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 22:00	2
Sulfate	9400	D2	400	mg/L			05/28/22 22:28	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:12	1
Lithium	1.0		0.020	mg/L		06/12/22 12:41	06/14/22 22:20	1
Boron	13		0.050	mg/L		05/31/22 16:29	06/01/22 18:12	1
Calcium	470		2.0	mg/L		05/31/22 16:29	06/01/22 18:12	1
Iron	0.14		0.10	mg/L		05/31/22 16:29	06/03/22 09:03	1
Magnesium	1300		10	mg/L		05/31/22 16:29	06/03/22 09:01	5
Manganese	<0.010		0.010	mg/L		05/31/22 16:29	06/03/22 09:03	1
Potassium	40		0.50	mg/L		05/31/22 16:29	06/03/22 09:03	1
Sodium	2100		2.5	mg/L		05/31/22 16:29	06/03/22 09:01	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:52	2
Molybdenum	0.0036	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:52	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	500		6.0	mg/L			06/02/22 18:17	1

Client Sample ID: FC-CCR-MW23R-0522

Lab Sample ID: 550-184772-9

Date Collected: 05/25/22 09:58
Matrix: Water
Date Received: 05/27/22 14:05

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L			06/02/22 18:17	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:17	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 18:17	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:17	1
Total Dissolved Solids	15000	D2	100	mg/L			05/27/22 17:04	1
pH	7.44	H5	1.68	SU			06/03/22 15:04	1
Temperature	12.6	H5	0.100	Degrees C			06/03/22 15:04	1

Client Sample ID: FC-CCR-MW24-0522

Lab Sample ID: 550-184772-10

Date Collected: 05/25/22 14:50
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5000	D2	400	mg/L			05/28/22 23:24	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 22:56	2
Sulfate	12000	D2	400	mg/L			05/28/22 23:24	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:15	1
Lithium	1.5		0.020	mg/L		06/12/22 12:41	06/14/22 22:24	1
Boron	0.94		0.050	mg/L		05/31/22 16:29	06/01/22 18:15	1
Calcium	460		2.0	mg/L		05/31/22 16:29	06/01/22 18:15	1
Iron	0.11		0.10	mg/L		05/31/22 16:29	06/03/22 09:08	1
Magnesium	190		2.0	mg/L		05/31/22 16:29	06/01/22 18:15	1
Manganese	1.8		0.010	mg/L		05/31/22 16:29	06/03/22 09:08	1
Potassium	46		0.50	mg/L		05/31/22 16:29	06/03/22 09:08	1
Sodium	7300		5.0	mg/L		05/31/22 16:29	06/03/22 09:06	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0023	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:54	2
Molybdenum	0.028	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:54	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	290		6.0	mg/L			06/02/22 18:27	1
Bicarbonate Alkalinity as CaCO3	290		6.0	mg/L			06/02/22 18:27	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:27	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 18:27	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:27	1
Total Dissolved Solids	19000	D2	1000	mg/L			05/27/22 17:04	1
pH	7.68	H5	1.68	SU			06/03/22 15:07	1
Temperature	14.8	H5	0.100	Degrees C			06/03/22 15:07	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW36R-0522

Lab Sample ID: 550-184772-11
Date Collected: 05/25/22 10:40
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**460**	**D2**	400	mg/L			05/29/22 00:20	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 23:52	2
Sulfate	**3900**	**D2**	400	mg/L			05/29/22 00:20	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:18	1
Lithium	**0.62**		0.020	mg/L		06/12/22 12:41	06/14/22 22:28	1
Boron	**51**		0.050	mg/L		05/31/22 16:29	06/01/22 18:18	1
Calcium	**460**		2.0	mg/L		05/31/22 16:29	06/01/22 18:18	1
Iron	<0.10		0.10	mg/L		05/31/22 16:29	06/03/22 09:14	1
Magnesium	**400**		2.0	mg/L		05/31/22 16:29	06/01/22 18:18	1
Manganese	**0.15**		0.010	mg/L		05/31/22 16:29	06/03/22 09:14	1
Potassium	**25**		0.50	mg/L		05/31/22 16:29	06/03/22 09:14	1
Sodium	**1100**		1.0	mg/L		05/31/22 16:29	06/03/22 09:11	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.21**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:56	2
Molybdenum	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:56	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**220**		6.0	mg/L			06/02/22 20:46	1
Bicarbonate Alkalinity as CaCO3	**220**		6.0	mg/L			06/02/22 20:46	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 20:46	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 20:46	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 20:46	1
Total Dissolved Solids	**7200**	**D2**	100	mg/L			05/27/22 17:04	1
pH	**7.50**	**H5**	1.68	SU			06/03/22 15:11	1
Temperature	**15.1**	**H5**	0.100	Degrees C			06/03/22 15:11	1

Client Sample ID: FC-CCR-MW38R-0522

Lab Sample ID: 550-184772-12
Date Collected: 05/25/22 17:25
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**310**	**D2**	4.0	mg/L			05/29/22 00:48	2
Fluoride	<0.80	D1	0.80	mg/L			05/29/22 00:48	2
Sulfate	**4600**	**D2**	400	mg/L			05/29/22 01:16	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:20	1
Lithium	**0.39**		0.020	mg/L		06/12/22 12:41	06/14/22 22:32	1
Boron	**27**		0.050	mg/L		05/31/22 16:29	06/01/22 18:20	1
Calcium	**440**		2.0	mg/L		05/31/22 16:29	06/01/22 18:20	1
Iron	**0.64**		0.10	mg/L		05/31/22 16:29	06/03/22 09:19	1
Magnesium	**270**		2.0	mg/L		05/31/22 16:29	06/01/22 18:20	1
Manganese	**0.020**		0.010	mg/L		05/31/22 16:29	06/03/22 09:19	1

Client Sample ID: FC-CCR-MW38R-0522

Lab Sample ID: 550-184772-12

Date Collected: 05/25/22 17:25
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Potassium	18		0.50		mg/L		05/31/22 16:29	06/03/22 09:19	1
Sodium	1000		1.0		mg/L		05/31/22 16:29	06/03/22 09:16	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/14/22 12:47	2
Arsenic	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Barium	0.016	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Cadmium	<0.00020	D1	0.00020		mg/L		06/01/22 08:40	06/14/22 12:47	2
Chromium	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/14/22 12:47	2
Cobalt	0.26	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Lead	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Molybdenum	0.019	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Selenium	0.0027	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Thallium	<0.00020	D1	0.00020		mg/L		06/01/22 08:40	06/14/22 12:47	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	130		6.0		mg/L			06/02/22 19:33	1
Bicarbonate Alkalinity as CaCO3	130		6.0		mg/L			06/02/22 19:33	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:33	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			06/02/22 19:33	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:33	1
Total Dissolved Solids	6200	D2	100		mg/L			05/27/22 17:04	1
pH	7.45	H5	1.68		SU			06/03/22 15:15	1
Temperature	13.3	H5	0.100		Degrees C			06/03/22 15:15	1

Client Sample ID: FC-CCR-SUMP1-0522

Lab Sample ID: 550-184772-13

Date Collected: 05/26/22 08:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	560	D2	100		mg/L			05/29/22 01:43	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	68		0.050		mg/L		05/31/22 19:52	06/01/22 20:20	1
Iron	0.14		0.10		mg/L		05/31/22 19:52	06/06/22 21:05	1
Magnesium	550		2.0		mg/L		05/31/22 19:52	06/06/22 21:05	1
Manganese	0.011		0.010		mg/L		05/31/22 19:52	06/06/22 21:05	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.059	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:57	2
Molybdenum	0.11	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:57	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8400	D2	100		mg/L			05/31/22 15:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP2-0522

Lab Sample ID: 550-184772-14

Date Collected: 05/26/22 08:11
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	920	D2 M1	100	mg/L			05/28/22 11:17	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	34		0.050	mg/L		05/31/22 19:52	06/01/22 20:15	1
Iron	5.4		0.10	mg/L		05/31/22 19:52	06/06/22 20:57	1
Magnesium	470		2.0	mg/L		05/31/22 19:52	06/06/22 20:57	1
Manganese	0.15		0.010	mg/L		05/31/22 19:52	06/06/22 20:57	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0015	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 12:59	2
Molybdenum	0.0042	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 12:59	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7600	D2	100	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP3-0522

Lab Sample ID: 550-184772-15

Date Collected: 05/26/22 08:30
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	100	mg/L			05/28/22 12:41	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	36		0.050	mg/L		05/31/22 19:52	06/01/22 20:17	1
Iron	0.20		0.10	mg/L		05/31/22 19:52	06/06/22 21:03	1
Magnesium	1200	D2	4.0	mg/L		05/31/22 19:52	06/06/22 21:00	2
Manganese	0.75		0.010	mg/L		05/31/22 19:52	06/06/22 21:03	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0024	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:01	2
Molybdenum	0.013	D1	0.0020	mg/L		06/01/22 08:40	06/14/22 15:24	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	21000	D2	200	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP7-0522

Lab Sample ID: 550-184772-16

Date Collected: 05/26/22 08:38
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	100	mg/L			05/28/22 13:09	50

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP7-0522

Lab Sample ID: 550-184772-16
Date Collected: 05/26/22 08:38
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	57	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:34	1
Iron	0.33		0.10	mg/L		06/01/22 09:59	06/06/22 21:34	1
Magnesium	840		2.0	mg/L		06/01/22 09:59	06/06/22 21:34	1
Manganese	0.073		0.010	mg/L		06/01/22 09:59	06/06/22 21:34	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.067	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:04	2
Molybdenum	0.0039	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:04	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000	D2	100	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP9-0522

Lab Sample ID: 550-184772-17
Date Collected: 05/26/22 08:48
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	890	D2	100	mg/L			05/28/22 13:37	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	30	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:36	1
Iron	3.2		0.10	mg/L		06/01/22 09:59	06/06/22 21:36	1
Magnesium	780		2.0	mg/L		06/01/22 09:59	06/06/22 21:36	1
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:36	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.021	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:08	2
Molybdenum	<0.0020	D1	0.0020	mg/L		06/01/22 08:40	06/14/22 15:26	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10000	D2	100	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP10-0522

Lab Sample ID: 550-184772-18
Date Collected: 05/26/22 09:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	900	D2	100	mg/L			05/28/22 14:05	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	52	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:39	1
Iron	0.17		0.10	mg/L		06/01/22 09:59	06/06/22 21:39	1
Magnesium	490		2.0	mg/L		06/01/22 09:59	06/06/22 21:39	1
Manganese	0.015		0.010	mg/L		06/01/22 09:59	06/06/22 21:39	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP10-0522

Lab Sample ID: 550-184772-18
Date Collected: 05/26/22 09:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.18	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:32	2
Molybdenum	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:32	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7700	D2	100		mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP11-0522

Lab Sample ID: 550-184772-19
Date Collected: 05/26/22 09:08
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	950	D2	100		mg/L			05/28/22 14:33	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	51	B7	0.050		mg/L		06/01/22 09:59	06/06/22 21:42	1
Iron	0.58		0.10		mg/L		06/01/22 09:59	06/06/22 21:42	1
Magnesium	460		2.0		mg/L		06/01/22 09:59	06/06/22 21:42	1
Manganese	0.018		0.010		mg/L		06/01/22 09:59	06/06/22 21:42	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.18	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 13:10	2
Molybdenum	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 13:10	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7800	D2	100		mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP12-0522

Lab Sample ID: 550-184772-20
Date Collected: 05/26/22 09:18
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	900	D2	100		mg/L			05/28/22 15:01	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	38	B7	0.050		mg/L		06/01/22 10:10	06/06/22 22:13	1
Iron	0.71		0.10		mg/L		06/01/22 10:10	06/06/22 22:13	1
Magnesium	580		2.0		mg/L		06/01/22 10:10	06/06/22 22:13	1
Manganese	<0.010		0.010		mg/L		06/01/22 10:10	06/06/22 22:13	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.084	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 13:16	2
Molybdenum	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 13:16	2

Client Sample ID: FC-CCR-SUMP12-0522 — Lab Sample ID: 550-184772-20

Date Collected: 05/26/22 09:18 — **Matrix: Water**
Date Received: 05/27/22 14:05

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8900	D2	100	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP13-0522 — Lab Sample ID: 550-184772-21

Date Collected: 05/26/22 09:28 — **Matrix: Water**
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	710	D2	100	mg/L			05/28/22 16:52	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	51	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:44	1
Iron	<0.10		0.10	mg/L		06/01/22 09:59	06/06/22 21:44	1
Magnesium	470		2.0	mg/L		06/01/22 09:59	06/06/22 21:44	1
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:44	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.18	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:18	2
Molybdenum	<0.0010	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:18	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7100	D2	100	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP14-0522 — Lab Sample ID: 550-184772-22

Date Collected: 05/26/22 09:38 — **Matrix: Water**
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	710	D2	100	mg/L			05/28/22 17:20	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	50	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:47	1
Iron	0.11		0.10	mg/L		06/01/22 09:59	06/06/22 21:47	1
Magnesium	480		2.0	mg/L		06/01/22 09:59	06/06/22 21:47	1
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:47	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.17	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:20	2
Molybdenum	0.0013	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:20	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7800	D2	100	mg/L			05/31/22 15:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP15-0522

Lab Sample ID: 550-184772-23
Date Collected: 05/26/22 09:45
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	100	mg/L			05/28/22 17:48	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:49	1
Iron	0.27		0.10	mg/L		06/01/22 09:59	06/06/22 21:49	1
Magnesium	1500	D2	10	mg/L		06/01/22 09:59	06/07/22 18:34	5
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:49	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.031	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:22	2
Molybdenum	0.0019	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:22	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	19000	D2	200	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP16-0522

Lab Sample ID: 550-184772-24
Date Collected: 05/26/22 09:50
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4000	D2	200	mg/L			05/28/22 18:16	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	13	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:52	1
Iron	0.26		0.10	mg/L		06/01/22 09:59	06/06/22 21:52	1
Magnesium	2100	D2	10	mg/L		06/01/22 09:59	06/07/22 18:36	5
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:52	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.025	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:25	2
Molybdenum	0.0020	D1	0.0020	mg/L		06/01/22 08:40	06/14/22 15:29	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	27000	D2	1000	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP17-0522

Lab Sample ID: 550-184772-25
Date Collected: 05/26/22 10:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3100	D2	200	mg/L			05/28/22 18:44	100

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP17-0522

Lab Sample ID: 550-184772-25

Date Collected: 05/26/22 10:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.8**	**B7**	0.050	mg/L		06/01/22 09:59	06/06/22 21:55	1
Iron	**0.37**		0.10	mg/L		06/01/22 09:59	06/06/22 21:55	1
Magnesium	**3200**	**D2**	20	mg/L		06/01/22 09:59	06/07/22 18:39	10
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:55	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0020	D1	0.0020	mg/L		06/01/22 08:40	06/15/22 09:32	4
Molybdenum	**0.0030**	**D1**	0.0020	mg/L		06/01/22 08:40	06/14/22 15:31	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**30000**	**D2**	1000	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP18-0522

Lab Sample ID: 550-184772-26

Date Collected: 05/26/22 10:10
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2600**	**D2**	200	mg/L			05/28/22 19:12	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.6**	**B7**	0.050	mg/L		06/01/22 09:59	06/06/22 21:57	1
Iron	**0.35**		0.10	mg/L		06/01/22 09:59	06/06/22 21:57	1
Magnesium	**3300**	**D2**	20	mg/L		06/01/22 09:59	06/07/22 18:42	10
Manganese	**0.035**		0.010	mg/L		06/01/22 09:59	06/06/22 21:57	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0020	D1	0.0020	mg/L		06/01/22 08:40	06/15/22 09:34	4
Molybdenum	**0.0032**	**D1**	0.0020	mg/L		06/01/22 08:40	06/14/22 15:33	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**31000**	**D2**	1000	mg/L			05/31/22 15:30	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275566/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275566

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/28/22 08:58	1

Lab Sample ID: LCS 550-275566/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275566

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		

Lab Sample ID: LCSD 550-275566/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275566

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-184772-14 MS — **Client Sample ID: FC-CCR-SUMP2-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275566

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	920	D2 M1	1000	2540	D2 M1	mg/L		163	80 - 120		

Lab Sample ID: 550-184772-14 MSD — **Client Sample ID: FC-CCR-SUMP2-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275566

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	920	D2 M1	1000	2530	D2 M1	mg/L		162	80 - 120	0	20

Lab Sample ID: MB 550-275567/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/28/22 08:30	1
Fluoride	<0.40		0.40		mg/L			05/28/22 08:30	1
Sulfate	<2.0		2.0		mg/L			05/28/22 08:30	1

Lab Sample ID: LCS 550-275567/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		105	90 - 110		
Fluoride			4.00	4.03		mg/L		101	90 - 110		
Sulfate			20.0	20.3		mg/L		101	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-275567/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.03		mg/L		101	90 - 110	0	20
Sulfate			20.0	20.3		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184772-1 MS — **Client Sample ID: FC-CCR-DMX03-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride	<0.80	D1 M2	8.00	1.14	D1 M2	mg/L		11	80 - 120		

Lab Sample ID: 550-184772-1 MS — **Client Sample ID: FC-CCR-DMX03-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	2200	D2 M1	4000	8280	D2 M1	mg/L		153	80 - 120		
Sulfate	28000	D2 M3	4000	31500	D2 M3	mg/L		77	80 - 120		

Lab Sample ID: 550-184772-1 MSD — **Client Sample ID: FC-CCR-DMX03-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	<0.80	D1 M2	8.00	1.15	D1 M2	mg/L		11	80 - 120	1	20

Lab Sample ID: 550-184772-1 MSD — **Client Sample ID: FC-CCR-DMX03-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2200	D2 M1	4000	7390	D2 M1	mg/L		130	80 - 120	11	20
Sulfate	28000	D2 M3	4000	28800	D2 M3	mg/L		11	80 - 120	9	20

Lab Sample ID: MB 550-275595/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/31/22 10:52	1
Fluoride	<0.40		0.40		mg/L			05/31/22 10:52	1
Sulfate	<2.0		2.0		mg/L			05/31/22 10:52	1

Lab Sample ID: LCS 550-275595/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	21.2		mg/L		106	90 - 110		
Fluoride			4.00	3.97		mg/L		99	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-275595/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	20.0	20.7		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-275595/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride	4.00	3.99		mg/L		100	90 - 110	0	20
Sulfate	20.0	20.7		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-184768-E-3 MS ^200 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	<400	D1	4000	4440	D1	mg/L		107	80 - 120
Sulfate	12000	D2	4000	16000	D2	mg/L		103	80 - 120

Lab Sample ID: 550-184768-E-3 MSD ^200 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<400	D1	4000	4420	D1	mg/L		106	80 - 120	0	20
Sulfate	12000	D2	4000	16000	D2	mg/L		103	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275622/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 17:26	1
Boron	<0.050		0.050	mg/L		05/31/22 16:29	06/01/22 17:26	1
Calcium	<2.0		2.0	mg/L		05/31/22 16:29	06/01/22 17:26	1
Magnesium	<2.0		2.0	mg/L		05/31/22 16:29	06/01/22 17:26	1

Lab Sample ID: MB 550-275622/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275999 — **Prep Batch: 275622**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.10		0.10	mg/L		05/31/22 16:29	06/02/22 23:07	1
Magnesium	<2.0		2.0	mg/L		05/31/22 16:29	06/02/22 23:07	1
Manganese	<0.010		0.010	mg/L		05/31/22 16:29	06/02/22 23:07	1
Potassium	<0.50		0.50	mg/L		05/31/22 16:29	06/02/22 23:07	1
Sodium	<0.50		0.50	mg/L		05/31/22 16:29	06/02/22 23:07	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-275622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.958	V1	mg/L		96	85 - 115
Boron	1.00	0.959		mg/L		96	85 - 115
Calcium	21.0	19.7		mg/L		94	85 - 115
Magnesium	21.0	19.9		mg/L		95	85 - 115

Lab Sample ID: LCS 550-275622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275999 — **Prep Batch: 275622**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	0.962		mg/L		96	85 - 115
Magnesium	21.0	20.8		mg/L		99	85 - 115
Manganese	1.00	0.950		mg/L		95	85 - 115
Potassium	20.0	19.7		mg/L		98	85 - 115
Sodium	20.0	20.1		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-275622/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.972	V1	mg/L		97	85 - 115	1	20
Boron	1.00	0.959		mg/L		96	85 - 115	0	20
Calcium	21.0	19.8		mg/L		94	85 - 115	1	20
Magnesium	21.0	20.1		mg/L		96	85 - 115	1	20

Lab Sample ID: LCSD 550-275622/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275999 — **Prep Batch: 275622**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	1.00	0.976		mg/L		98	85 - 115	1	20
Magnesium	21.0	20.9		mg/L		99	85 - 115	1	20
Manganese	1.00	0.983		mg/L		98	85 - 115	3	20
Potassium	20.0	19.7		mg/L		98	85 - 115	0	20
Sodium	20.0	20.0		mg/L		100	85 - 115	1	20

Lab Sample ID: 550-184324-C-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	<0.0010		1.00	0.996	V1	mg/L		100	70 - 130
Boron	<0.050		1.00	0.994		mg/L		98	70 - 130
Calcium	82	M2	21.0	89.6	M2	mg/L		36	70 - 130
Magnesium	18		21.0	35.3		mg/L		84	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184324-C-1-C MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275999 — **Prep Batch: 275622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	0.11		1.00	1.07		mg/L		96	70 - 130
Magnesium	18		21.0	36.7		mg/L		91	70 - 130
Manganese	<0.010		1.00	0.962		mg/L		96	70 - 130
Potassium	100	M3	20.0	111	M3	mg/L		47	70 - 130
Sodium	460	M3	20.0	433	M3	mg/L		-145	70 - 130

Lab Sample ID: 550-184324-C-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010		1.00	1.04	V1	mg/L		104	70 - 130	1	20
Boron	<0.050		1.00	1.01		mg/L		99	70 - 130	3	20
Calcium	82	M2	21.0	95.8	M2	mg/L		65	70 - 130	2	20
Magnesium	18		21.0	37.3		mg/L		94	70 - 130	2	20

Lab Sample ID: 550-184324-C-1-D MSD T — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275999 — **Prep Batch: 275622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	0.11		1.00	1.15		mg/L		104	70 - 130	7	20
Magnesium	18		21.0	39.5		mg/L		104	70 - 130	7	20
Manganese	<0.010		1.00	0.977		mg/L		98	70 - 130	1	20
Potassium	100	M3	20.0	122	M3	mg/L		103	70 - 130	10	20
Sodium	460	M3	20.0	479	M3	mg/L		83	70 - 130	10	20

Lab Sample ID: MB 550-275638/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275782 — **Prep Batch: 275638**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010		mg/L		05/31/22 19:52	06/01/22 19:44	1
Boron	<0.050		0.050		mg/L		05/31/22 19:52	06/01/22 19:44	1

Lab Sample ID: MB 550-275638/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<2.0		2.0		mg/L		05/31/22 19:52	06/06/22 20:05	1
Iron	<0.10		0.10		mg/L		05/31/22 19:52	06/06/22 20:05	1
Magnesium	<2.0		2.0		mg/L		05/31/22 19:52	06/06/22 20:05	1
Manganese	<0.010		0.010		mg/L		05/31/22 19:52	06/06/22 20:05	1
Potassium	<0.50		0.50		mg/L		05/31/22 19:52	06/06/22 20:05	1
Sodium	<0.50		0.50		mg/L		05/31/22 19:52	06/06/22 20:05	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-275638/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275782 — **Prep Batch: 275638**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.971	V1	mg/L		97	85 - 115
Boron	1.00	0.938		mg/L		94	85 - 115

Lab Sample ID: LCS 550-275638/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	21.0	22.1		mg/L		105	85 - 115
Iron	1.00	1.02		mg/L		102	85 - 115
Magnesium	21.0	21.3		mg/L		101	85 - 115
Manganese	1.00	1.06		mg/L		106	85 - 115
Potassium	20.0	20.3		mg/L		101	85 - 115
Sodium	20.0	20.4		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-275638/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275782 — **Prep Batch: 275638**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.979	V1	mg/L		98	85 - 115	1	20
Boron	1.00	0.933		mg/L		93	85 - 115	1	20

Lab Sample ID: LCSD 550-275638/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	21.0	21.5		mg/L		102	85 - 115	3	20
Iron	1.00	0.989		mg/L		99	85 - 115	3	20
Magnesium	21.0	20.7		mg/L		98	85 - 115	3	20
Manganese	1.00	1.04		mg/L		104	85 - 115	1	20
Potassium	20.0	19.7		mg/L		99	85 - 115	3	20
Sodium	20.0	19.9		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-184766-H-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275782 — **Prep Batch: 275638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	<0.0010	V1	1.00	0.953	V1	mg/L		95	70 - 130
Boron	0.31		1.00	1.23		mg/L		92	70 - 130

Lab Sample ID: 550-184766-H-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	35		21.0	56.2		mg/L		99	70 - 130
Iron	<0.10		1.00	1.05		mg/L		105	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184766-H-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	5.1		21.0	26.0		mg/L		100	70 - 130
Manganese	<0.010		1.00	1.04		mg/L		104	70 - 130
Potassium	12		20.0	32.4		mg/L		100	70 - 130
Sodium	100		20.0	117	M3	mg/L		78	70 - 130

Lab Sample ID: 550-184766-H-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275782 — **Prep Batch: 275638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010	V1	1.00	0.989	V1	mg/L		99	70 - 130	4	20
Boron	0.31		1.00	1.27		mg/L		96	70 - 130	3	20

Lab Sample ID: 550-184766-H-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	35		21.0	57.0		mg/L		103	70 - 130	1	20
Iron	<0.10		1.00	1.04		mg/L		104	70 - 130	0	20
Magnesium	5.1		21.0	26.2		mg/L		101	70 - 130	1	20
Manganese	<0.010		1.00	1.06		mg/L		106	70 - 130	2	20
Potassium	12		20.0	32.7		mg/L		102	70 - 130	1	20
Sodium	100		20.0	120	M3	mg/L		90	70 - 130	2	20

Lab Sample ID: MB 550-275660/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276168 — **Prep Batch: 275660**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0980	B1	0.050	mg/L		06/01/22 09:59	06/06/22 21:08	1
Iron	<0.10		0.10	mg/L		06/01/22 09:59	06/06/22 21:08	1
Magnesium	<2.0		2.0	mg/L		06/01/22 09:59	06/06/22 21:08	1
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:08	1

Lab Sample ID: MB 550-275660/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276318 — **Prep Batch: 275660**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050	mg/L		06/01/22 09:59	06/07/22 18:13	1
Iron	<0.10		0.10	mg/L		06/01/22 09:59	06/07/22 18:13	1
Magnesium	<2.0		2.0	mg/L		06/01/22 09:59	06/07/22 18:13	1
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/07/22 18:13	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-275660/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276168 — **Prep Batch: 275660**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	1.04		mg/L		104	85 - 115
Iron	1.00	0.951		mg/L		95	85 - 115
Magnesium	21.0	19.8		mg/L		94	85 - 115
Manganese	1.00	0.996		mg/L		100	85 - 115

Lab Sample ID: LCS 550-275660/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276318 — **Prep Batch: 275660**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.991		mg/L		99	85 - 115
Iron	1.00	0.995		mg/L		99	85 - 115
Magnesium	21.0	21.0		mg/L		100	85 - 115
Manganese	1.00	0.933		mg/L		93	85 - 115

Lab Sample ID: LCSD 550-275660/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276168 — **Prep Batch: 275660**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	1.05		mg/L		105	85 - 115	1	20
Iron	1.00	0.997		mg/L		100	85 - 115	5	20
Magnesium	21.0	20.5		mg/L		98	85 - 115	4	20
Manganese	1.00	1.02		mg/L		102	85 - 115	2	20

Lab Sample ID: LCSD 550-275660/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276318 — **Prep Batch: 275660**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	0.998		mg/L		100	85 - 115	1	20
Iron	1.00	1.00		mg/L		100	85 - 115	1	20
Magnesium	21.0	20.8		mg/L		99	85 - 115	1	20
Manganese	1.00	0.935		mg/L		94	85 - 115	0	20

Lab Sample ID: 550-184824-A-2-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276168 — **Prep Batch: 275660**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.24	B1	1.00	1.30		mg/L		106	70 - 130
Iron	0.24	R4	1.00	1.41		mg/L		117	70 - 130
Magnesium	20		21.0	38.5		mg/L		89	70 - 130
Manganese	0.035		1.00	1.05		mg/L		101	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184824-A-2-A MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276318 — **Prep Batch: 275660**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.24	B1	1.00	1.27		mg/L		102	70 - 130
Iron	0.24	R4	1.00	1.46		mg/L		122	70 - 130
Magnesium	20		21.0	40.4		mg/L		98	70 - 130
Manganese	0.035		1.00	0.976		mg/L		94	70 - 130

Lab Sample ID: 550-184824-A-2-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276168 — **Prep Batch: 275660**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.24	B1	1.00	1.29		mg/L		105	70 - 130	2	20
Iron	0.24	R4	1.00	1.19	R4	mg/L		94	70 - 130	21	20
Magnesium	20		21.0	38.9		mg/L		90	70 - 130	4	20
Manganese	0.035		1.00	1.04		mg/L		100	70 - 130	6	20

Lab Sample ID: 550-184824-A-2-B MSD T — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276318 — **Prep Batch: 275660**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.24	B1	1.00	1.25		mg/L		101	70 - 130	1	20
Iron	0.24	R4	1.00	1.17	R4	mg/L		93	70 - 130	22	20
Magnesium	20		21.0	38.7		mg/L		90	70 - 130	4	20
Manganese	0.035		1.00	0.965		mg/L		93	70 - 130	1	20

Lab Sample ID: MB 280-577755/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/12/22 12:41	06/14/22 20:15	1

Lab Sample ID: LCS 280-577755/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.967		mg/L		97	90 - 112

Lab Sample ID: 280-163042-B-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	<0.020		1.00	0.982		mg/L		98	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 280-163042-B-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	<0.020		1.00	0.999		mg/L		100	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-275639/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		05/31/22 20:34	06/07/22 12:56	1
Arsenic	<0.00050		0.00050		mg/L		05/31/22 20:34	06/07/22 12:56	1
Barium	<0.00050		0.00050		mg/L		05/31/22 20:34	06/07/22 12:56	1
Cadmium	<0.00010		0.00010		mg/L		05/31/22 20:34	06/07/22 12:56	1
Chromium	<0.0010		0.0010		mg/L		05/31/22 20:34	06/07/22 12:56	1
Cobalt	<0.00050		0.00050		mg/L		05/31/22 20:34	06/07/22 12:56	1
Lead	<0.00050		0.00050		mg/L		05/31/22 20:34	06/07/22 12:56	1
Molybdenum	<0.00050		0.00050		mg/L		05/31/22 20:34	06/07/22 12:56	1

Lab Sample ID: MB 550-275639/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00050		0.00050		mg/L		05/31/22 20:34	06/09/22 17:34	1
Selenium	<0.00050		0.00050		mg/L		05/31/22 20:34	06/09/22 17:34	1

Lab Sample ID: MB 550-275639/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00010		0.00010		mg/L		05/31/22 20:34	06/13/22 09:34	1

Lab Sample ID: LCS 550-275639/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0880		mg/L		88	85 - 115
Arsenic	0.100	0.0915		mg/L		91	85 - 115
Barium	0.100	0.100		mg/L		100	85 - 115
Cadmium	0.100	0.0950		mg/L		95	85 - 115
Chromium	0.100	0.0905		mg/L		90	85 - 115
Cobalt	0.100	0.0925		mg/L		92	85 - 115
Lead	0.100	0.0893		mg/L		89	85 - 115
Molybdenum	0.100	0.0943		mg/L		94	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-275639/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0949		mg/L		95	85 - 115
Selenium	0.100	0.0965		mg/L		96	85 - 115

Lab Sample ID: LCS 550-275639/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.0958		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-275639/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0894		mg/L		89	85 - 115	2	20
Arsenic	0.100	0.0915		mg/L		91	85 - 115	0	20
Barium	0.100	0.101		mg/L		101	85 - 115	1	20
Cadmium	0.100	0.0981		mg/L		98	85 - 115	3	20
Chromium	0.100	0.0902		mg/L		90	85 - 115	0	20
Cobalt	0.100	0.0912		mg/L		91	85 - 115	1	20
Lead	0.100	0.0944		mg/L		94	85 - 115	6	20
Molybdenum	0.100	0.0973		mg/L		97	85 - 115	3	20

Lab Sample ID: LCSD 550-275639/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.100	0.0926		mg/L		93	85 - 115	2	20
Selenium	0.100	0.0962		mg/L		96	85 - 115	0	20

Lab Sample ID: LCSD 550-275639/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.100	0.0954		mg/L		95	85 - 115	0	20

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0010		0.100	0.0912		mg/L		91	70 - 130
Arsenic	0.0012		0.100	0.0964		mg/L		95	70 - 130
Barium	0.0068		0.100	0.108		mg/L		101	70 - 130
Cadmium	<0.00010		0.100	0.0970		mg/L		97	70 - 130
Chromium	0.0017		0.100	0.0913		mg/L		90	70 - 130
Cobalt	<0.00050		0.100	0.0924		mg/L		92	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	<0.00050		0.100	0.0902		mg/L		90	70 - 130
Molybdenum	0.0045		0.100	0.103		mg/L		98	70 - 130

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.00086		0.100	0.0997		mg/L		99	70 - 130
Selenium	0.00095		0.100	0.102		mg/L		101	70 - 130

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.00035		0.100	0.101		mg/L		101	70 - 130

Lab Sample ID: 550-184761-AF-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0010		0.100	0.0939		mg/L		94	70 - 130	3	20
Arsenic	0.0012		0.100	0.0992		mg/L		98	70 - 130	3	20
Barium	0.0068		0.100	0.113		mg/L		106	70 - 130	5	20
Cadmium	<0.00010		0.100	0.100		mg/L		100	70 - 130	3	20
Chromium	0.0017		0.100	0.0943		mg/L		93	70 - 130	3	20
Cobalt	<0.00050		0.100	0.0946		mg/L		95	70 - 130	2	20
Lead	<0.00050		0.100	0.0958		mg/L		96	70 - 130	6	20
Molybdenum	0.0045		0.100	0.105		mg/L		101	70 - 130	2	20

Lab Sample ID: 550-184761-AF-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.00086		0.100	0.0972		mg/L		96	70 - 130	3	20
Selenium	0.00095		0.100	0.0979		mg/L		97	70 - 130	4	20

Lab Sample ID: 550-184761-AF-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.00035		0.100	0.104		mg/L		103	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-275652/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		06/01/22 08:40	06/14/22 12:36	1
Arsenic	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Barium	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Cadmium	<0.00010		0.00010		mg/L		06/01/22 08:40	06/14/22 12:36	1
Chromium	<0.0010		0.0010		mg/L		06/01/22 08:40	06/14/22 12:36	1
Cobalt	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Lead	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Molybdenum	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Selenium	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Thallium	<0.00010		0.00010		mg/L		06/01/22 08:40	06/14/22 12:36	1

Lab Sample ID: LCS 550-275652/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			0.100	0.0915		mg/L		91	85 - 115		
Arsenic			0.100	0.101		mg/L		101	85 - 115		
Barium			0.100	0.101		mg/L		101	85 - 115		
Cadmium			0.100	0.0987		mg/L		99	85 - 115		
Chromium			0.100	0.106		mg/L		106	85 - 115		
Cobalt			0.100	0.106		mg/L		106	85 - 115		
Lead			0.100	0.0949		mg/L		95	85 - 115		
Molybdenum			0.100	0.101		mg/L		101	85 - 115		
Selenium			0.100	0.0978		mg/L		98	85 - 115		
Thallium			0.100	0.0901		mg/L		90	85 - 115		

Lab Sample ID: LCSD 550-275652/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony			0.100	0.0919		mg/L		92	85 - 115	0	20
Arsenic			0.100	0.101		mg/L		101	85 - 115	0	20
Barium			0.100	0.101		mg/L		101	85 - 115	0	20
Cadmium			0.100	0.0989		mg/L		99	85 - 115	0	20
Chromium			0.100	0.105		mg/L		105	85 - 115	1	20
Cobalt			0.100	0.108		mg/L		108	85 - 115	2	20
Lead			0.100	0.0951		mg/L		95	85 - 115	0	20
Molybdenum			0.100	0.0995		mg/L		99	85 - 115	1	20
Selenium			0.100	0.0993		mg/L		99	85 - 115	1	20
Thallium			0.100	0.0921		mg/L		92	85 - 115	2	20

Lab Sample ID: 550-184772-18 MS — **Client Sample ID: FC-CCR-SUMP10-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	<0.0020	D1	0.100	0.0935	D1	mg/L		93	70 - 130		

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184772-18 MS — **Client Sample ID: FC-CCR-SUMP10-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	<0.0010	D1	0.100	0.103	D1	mg/L		103	70 - 130
Barium	0.015	D1	0.100	0.119	D1	mg/L		104	70 - 130
Cadmium	0.00096	D1	0.100	0.0960	D1	mg/L		95	70 - 130
Chromium	<0.0020	D1	0.100	0.103	D1	mg/L		102	70 - 130
Cobalt	0.18	D1	0.100	0.276	D1	mg/L		96	70 - 130
Lead	<0.0010	D1	0.100	0.0935	D1	mg/L		93	70 - 130
Molybdenum	<0.0010	D1	0.100	0.105	D1	mg/L		104	70 - 130
Selenium	0.0012	D1	0.100	0.107	D1	mg/L		106	70 - 130
Thallium	0.00060	D1	0.100	0.0880	D1	mg/L		87	70 - 130

Lab Sample ID: 550-184772-18 MSD — **Client Sample ID: FC-CCR-SUMP10-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0020	D1	0.100	0.0952	D1	mg/L		95	70 - 130	2	20
Arsenic	<0.0010	D1	0.100	0.108	D1	mg/L		108	70 - 130	5	20
Barium	0.015	D1	0.100	0.119	D1	mg/L		104	70 - 130	1	20
Cadmium	0.00096	D1	0.100	0.0967	D1	mg/L		96	70 - 130	1	20
Chromium	<0.0020	D1	0.100	0.105	D1	mg/L		104	70 - 130	2	20
Cobalt	0.18	D1	0.100	0.280	D1	mg/L		100	70 - 130	1	20
Lead	<0.0010	D1	0.100	0.0920	D1	mg/L		91	70 - 130	2	20
Molybdenum	<0.0010	D1	0.100	0.107	D1	mg/L		106	70 - 130	2	20
Selenium	0.0012	D1	0.100	0.113	D1	mg/L		112	70 - 130	6	20
Thallium	0.00060	D1	0.100	0.0859	D1	mg/L		85	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-275923/26 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275923

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:44	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:44	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:44	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 18:44	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:44	1

Lab Sample ID: MB 550-275923/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275923

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 15:35	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 15:35	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 15:35	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 15:35	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 15:35	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 550-275923/25
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	249		mg/L		100	90 - 110		

Lab Sample ID: LCS 550-275923/3
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	259		mg/L		104	90 - 110		

Lab Sample ID: LCSD 550-275923/12
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	251		mg/L		100	90 - 110	3	20

Lab Sample ID: LCSD 550-275923/38
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	248		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-184801-W-1 DU
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	120			125		mg/L				0	20
Bicarbonate Alkalinity as CaCO3	120			125		mg/L				0	20
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Lab Sample ID: 550-184880-Q-5 DU
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	190			188		mg/L				0.3	20
Bicarbonate Alkalinity as CaCO3	190			188		mg/L				0.3	20
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-184880-Q-6 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275923

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	130		134		mg/L		0.08	20
Bicarbonate Alkalinity as CaCO3	130		134		mg/L		0.08	20
Carbonate Alkalinity as CaCO3	<6.0		<6.0		mg/L		NC	20
Alkalinity, Phenolphthalein	<6.0		<6.0		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	<6.0		<6.0		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275452/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20	mg/L			05/27/22 17:04	1

Lab Sample ID: LCS 550-275452/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	986		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-275452/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	976		mg/L		98	90 - 110	1	10

Lab Sample ID: 550-184772-2 DU — **Client Sample ID: FC-CCR-DMX04-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	10000	D2	10500	D2	mg/L		2	10

Lab Sample ID: MB 550-275610/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275610

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20	mg/L			05/31/22 15:30	1

Lab Sample ID: LCS 550-275610/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275610

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	994		mg/L		99	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-275610/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275610

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1020		mg/L		102	90 - 110	3	10

Lab Sample ID: 550-184772-16 DU — **Client Sample ID: FC-CCR-SUMP7-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275610

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	11000	D2		10600	D2	mg/L				2	10

Lab Sample ID: 550-184772-21 DU — **Client Sample ID: FC-CCR-SUMP13-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275610

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	7100	D2		7700	D2	mg/L				8	10

Lab Sample ID: MB 550-275734/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			06/01/22 16:31	1

Lab Sample ID: LCS 550-275734/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1070		mg/L		107	90 - 110		

Lab Sample ID: LCSD 550-275734/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1060		mg/L		106	90 - 110	1	10

Lab Sample ID: 550-184859-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1240		mg/L				4	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 550-2-A-2 LCSSRM — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.900		SU		98.6	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275986/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.893		SU		98.5	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275986/61 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.962		SU		99.5	98.5 - 101.5		

Lab Sample ID: 550-184772-2 DU — **Client Sample ID: FC-CCR-DMX04-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.76	H5		7.765	H5	SU				0.08	5
Temperature	11.4	H5		12.60	H5	Degrees C				10	

Lab Sample ID: 550-184772-12 DU — **Client Sample ID: FC-CCR-MW38R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.45	H5		7.473	H5	SU				0.2	5
Temperature	13.3	H5		13.10	H5	Degrees C				2	

Lab Sample ID: LCSSRM 550-276198/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276198

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.930		SU		99.0	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-276198/29 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276198

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.930		SU		99.0	98.5 - 101.5		

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-184771-A-3 DU
Matrix: Water
Analysis Batch: 276198

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.53	H5		7.540	H5	SU				0.1	5
Temperature	14.1	H5		13.40	H5	Degrees C				5	

HPLC/IC

Analysis Batch: 275566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	300.0	
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	300.0	
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	300.0	
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	300.0	
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	300.0	
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	300.0	
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	300.0	
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	300.0	
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	300.0	
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	300.0	
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	300.0	
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	300.0	
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	300.0	
MB 550-275566/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275566/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275566/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184772-14 MS	FC-CCR-SUMP2-0522	Total/NA	Water	300.0	
550-184772-14 MSD	FC-CCR-SUMP2-0522	Total/NA	Water	300.0	

Analysis Batch: 275567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	300.0	
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	300.0	
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	300.0	
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	300.0	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	300.0	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	300.0	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	300.0	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	300.0	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	300.0	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	300.0	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	300.0	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	300.0	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	300.0	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	300.0	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	300.0	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	300.0	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	300.0	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	300.0	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	300.0	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	300.0	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	300.0	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	300.0	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	300.0	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	300.0	
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	300.0	
MB 550-275567/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275567/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275567/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184772-1 MS	FC-CCR-DMX03-0522	Total/NA	Water	300.0	
550-184772-1 MS	FC-CCR-DMX03-0522	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 275567 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1 MSD	FC-CCR-DMX03-0522	Total/NA	Water	300.0	
550-184772-1 MSD	FC-CCR-DMX03-0522	Total/NA	Water	300.0	

Analysis Batch: 275595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	300.0	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	300.0	
MB 550-275595/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275595/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275595/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184768-E-3 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-184768-E-3 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 275622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7	
MB 550-275622/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275622/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275622/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184324-C-1-C MS	Matrix Spike	Total/NA	Water	200.7	
550-184324-C-1-C MS T	Matrix Spike	Total/NA	Water	200.7	
550-184324-C-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-184324-C-1-D MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 275638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7	
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	200.7	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7	
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	200.7	
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	200.7	
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.7	
MB 550-275638/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275638/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275638/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184766-H-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-184766-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 275639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 275639 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.8	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.8	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.8	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.8	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.8	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.8	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.8	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.8	
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8	
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 275652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	200.8	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.8	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.8	
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	200.8	
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	200.8	
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.8	
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	200.8	
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	200.8	
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	200.8	
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	200.8	
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	200.8	
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	200.8	
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	200.8	
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	200.8	
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.8	
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.8	
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.8	
MB 550-275652/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275652/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275652/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184772-18 MS	FC-CCR-SUMP10-0522	Total/NA	Water	200.8	
550-184772-18 MSD	FC-CCR-SUMP10-0522	Total/NA	Water	200.8	

Prep Batch: 275660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	200.7	
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	200.7	
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	200.7	
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	200.7	
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	200.7	
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	200.7	
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	200.7	
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	200.7	
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.7	
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 275660 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.7	
MB 550-275660/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275660/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275660/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184824-A-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-184824-A-2-A MS T	Matrix Spike	Total/NA	Water	200.7	
550-184824-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-184824-A-2-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 275780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7 Rev 4.4	275622
MB 550-275622/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275622
LCS 550-275622/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275622
LCSD 550-275622/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275622
550-184324-C-1-C MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275622
550-184324-C-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275622

Analysis Batch: 275782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.7 Rev 4.4	275638
MB 550-275638/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275638
LCS 550-275638/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275638
LCSD 550-275638/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275638
550-184766-H-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275638
550-184766-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275638

Analysis Batch: 275999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7 Rev 4.4	275622

Metals (Continued)

Analysis Batch: 275999 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7 Rev 4.4	275622
MB 550-275622/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275622
LCS 550-275622/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275622
LCSD 550-275622/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275622
550-184324-C-1-C MS T	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275622
550-184324-C-1-D MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275622

Analysis Batch: 276167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.7 Rev 4.4	275638
MB 550-275638/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275638
LCS 550-275638/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275638
LCSD 550-275638/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275638
550-184766-H-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275638
550-184766-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275638

Analysis Batch: 276168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.7 Rev 4.4	275660
MB 550-275660/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275660
LCS 550-275660/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275660
LCSD 550-275660/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275660
550-184824-A-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275660
550-184824-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275660

Metals

Analysis Batch: 276217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8 LL	275639
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275639
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.8 LL	275639
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.8 LL	275639
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.8 LL	275639
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.8 LL	275639
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.8 LL	275639
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.8 LL	275639
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.8 LL	275639
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.8 LL	275639
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	200.7 Rev 4.4	275638

Analysis Batch: 276318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.7 Rev 4.4	275660
MB 550-275660/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275660
LCS 550-275660/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275660
LCSD 550-275660/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275660
550-184824-A-2-A MS T	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275660
550-184824-A-2-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275660

Analysis Batch: 276679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.8 LL	275639
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.8 LL	275639
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.8 LL	275639
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.8 LL	275639
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8 LL	275639
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275639
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.8 LL	275639
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.8 LL	275639

Metals (Continued)

Analysis Batch: 276709 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8 LL	275639
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275639
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.8 LL	275639
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.8 LL	275652
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.8 LL	275652
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.8 LL	275652
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	200.8 LL	275652
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	200.8 LL	275652
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.8 LL	275652
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	200.8 LL	275652
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	200.8 LL	275652
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	200.8 LL	275652
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	200.8 LL	275652
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	200.8 LL	275652
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	200.8 LL	275652
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	200.8 LL	275652
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	200.8 LL	275652
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.8 LL	275652
MB 550-275652/1-A	Method Blank	Total/NA	Water	200.8 LL	275652
LCS 550-275652/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275652
LCSD 550-275652/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275652
550-184772-18 MS	FC-CCR-SUMP10-0522	Total/NA	Water	200.8 LL	275652
550-184772-18 MSD	FC-CCR-SUMP10-0522	Total/NA	Water	200.8 LL	275652

Analysis Batch: 276874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.8 LL	275652
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	200.8 LL	275652
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.8 LL	275652
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.8 LL	275652
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.8 LL	275652

Analysis Batch: 276895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	200.8 LL	275652
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.8 LL	275652
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.8 LL	275652

Prep Batch: 577755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 577755 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7	
MB 280-577755/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577755/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-163042-B-1-C MS	Matrix Spike	Total/NA	Water	200.7	
280-163042-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 578102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7 Rev 4.4	577755
MB 280-577755/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577755
LCS 280-577755/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577755
280-163042-B-1-C MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577755
280-163042-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577755

General Chemistry

Analysis Batch: 275452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	SM 2540C	
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	SM 2540C	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	SM 2540C	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	SM 2540C	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	SM 2540C	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	SM 2540C	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	SM 2540C	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	SM 2540C	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	SM 2540C	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	SM 2540C	
MB 550-275452/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275452/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275452/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184772-2 DU	FC-CCR-DMX04-0522	Total/NA	Water	SM 2540C	

General Chemistry

Analysis Batch: 275610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	SM 2540C	
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	SM 2540C	
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	SM 2540C	
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	SM 2540C	
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	SM 2540C	
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	SM 2540C	
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	SM 2540C	
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	SM 2540C	
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	SM 2540C	
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	SM 2540C	
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	SM 2540C	
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	SM 2540C	
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	SM 2540C	
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	SM 2540C	
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	SM 2540C	
MB 550-275610/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275610/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275610/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184772-16 DU	FC-CCR-SUMP7-0522	Total/NA	Water	SM 2540C	
550-184772-21 DU	FC-CCR-SUMP13-0522	Total/NA	Water	SM 2540C	

Analysis Batch: 275734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	SM 2540C	
MB 550-275734/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275734/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275734/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184859-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	SM 2320B	
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	SM 2320B	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	SM 2320B	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	SM 2320B	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	SM 2320B	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	SM 2320B	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	SM 2320B	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	SM 2320B	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	SM 2320B	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	SM 2320B	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	SM 2320B	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	SM 2320B	
MB 550-275923/26	Method Blank	Total/NA	Water	SM 2320B	
MB 550-275923/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-275923/25	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-275923/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-275923/12	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-275923/38	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-184801-W-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-184880-Q-5 DU	Duplicate	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 275923 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184880-Q-6 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 275986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	SM 4500 H+ B	
550-2-A-2 LCSSRM	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/61	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184772-2 DU	FC-CCR-DMX04-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-12 DU	FC-CCR-MW38R-0522	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 276198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/29	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184771-A-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX03-0522

Lab Sample ID: 550-184772-1
Matrix: Water
Date Collected: 05/25/22 11:25
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 10:50	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 12:13	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 19:59	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276167	06/06/22 20:21	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 20:24	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 21:36	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:41	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:09	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		4	276727	06/13/22 11:37	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 17:42	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Client Sample ID: FC-CCR-DMX04-0522

Lab Sample ID: 550-184772-2
Matrix: Water
Date Collected: 05/25/22 13:50
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 13:37	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 14:05	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:02	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	276167	06/06/22 20:26	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 20:29	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 21:40	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:43	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:11	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		4	276727	06/13/22 11:39	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 17:02	VOS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX04-0522 — Lab Sample ID: 550-184772-2

Date Collected: 05/25/22 13:50 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:43	CXK	TAL PHX

Client Sample ID: FC-CCR-MW05-0522 — Lab Sample ID: 550-184772-3

Date Collected: 05/25/22 12:15 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 14:33	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 15:01	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:04	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276167	06/06/22 20:31	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 20:34	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 21:44	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:45	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 17:10	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:49	CXK	TAL PHX

Client Sample ID: FC-CCR-MW06-0522 — Lab Sample ID: 550-184772-4

Date Collected: 05/25/22 15:30 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1000	275595	05/31/22 13:38	AS1	TAL PHX
Total/NA	Analysis	300.0		2	275567	05/28/22 16:25	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 16:53	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:07	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276167	06/06/22 20:37	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	276314	06/07/22 17:39	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:04	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:47	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW06-0522 — Lab Sample ID: 550-184772-4

Date Collected: 05/25/22 15:30 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:13	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276709	06/13/22 10:10	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 17:24	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:52	CXK	TAL PHX

Client Sample ID: FC-CCR-MW11-0522 — Lab Sample ID: 550-184772-5

Date Collected: 05/26/22 12:28 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5000	275595	05/31/22 13:19	AS1	TAL PHX
Total/NA	Analysis	300.0		2	275567	05/28/22 17:21	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 17:49	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	276167	06/06/22 20:42	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		50	276314	06/07/22 17:42	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276895	06/15/22 09:25	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 19:03	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275734		CHS	TAL PHX
					(Start)	06/01/22 16:31		
					(End)	06/02/22 13:15		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:54	CXK	TAL PHX

Client Sample ID: FC-CCR-MW16-0522 — Lab Sample ID: 550-184772-6

Date Collected: 05/26/22 14:15 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 18:16	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 18:44	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:12	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276167	06/06/22 20:52	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 20:55	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW16-0522

Lab Sample ID: 550-184772-6
Matrix: Water

Date Collected: 05/26/22 14:15
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:08	LMT	TAL DEN
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 12:45	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276833	06/14/22 12:49	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 19:22	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:56	CXK	TAL PHX

Client Sample ID: FC-CCR-MW17R-0522

Lab Sample ID: 550-184772-7
Matrix: Water

Date Collected: 05/25/22 16:25
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 19:12	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 19:40	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:07	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275999	06/03/22 08:45	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 08:48	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:12	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:49	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:16	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276709	06/13/22 10:12	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 17:55	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:59	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW18-0522

Lab Sample ID: 550-184772-8
Matrix: Water

Date Collected: 05/25/22 13:05
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 20:08	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 20:36	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:10	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	275999	06/03/22 08:55	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 08:58	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:16	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:58	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 18:02	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 15:01	CXK	TAL PHX

Client Sample ID: FC-CCR-MW23R-0522

Lab Sample ID: 550-184772-9
Matrix: Water

Date Collected: 05/25/22 09:58
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 22:00	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 22:28	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:12	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275999	06/03/22 09:01	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 09:03	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:20	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:52	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 18:17	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 15:04	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW24-0522

Lab Sample ID: 550-184772-10

Date Collected: 05/25/22 14:50
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 22:56	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 23:24	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:15	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	275999	06/03/22 09:06	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 09:08	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:24	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:54	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 18:27	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 15:07	CXK	TAL PHX

Client Sample ID: FC-CCR-MW36R-0522

Lab Sample ID: 550-184772-11

Date Collected: 05/25/22 10:40
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 23:52	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/29/22 00:20	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:18	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275999	06/03/22 09:11	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 09:14	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:28	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:56	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 20:46	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 15:11	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW38R-0522

Lab Sample ID: 550-184772-12
Date Collected: 05/25/22 17:25
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/29/22 00:48	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/29/22 01:16	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:20	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275999	06/03/22 09:16	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 09:19	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:32	LMT	TAL DEN
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 12:47	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 19:33	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 15:15	CXK	TAL PHX

Client Sample ID: FC-CCR-SUMP1-0522

Lab Sample ID: 550-184772-13
Date Collected: 05/26/22 08:00
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275567	05/29/22 01:43	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:20	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 21:05	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 12:57	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP2-0522

Lab Sample ID: 550-184772-14
Date Collected: 05/26/22 08:11
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 11:17	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:15	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 20:57	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP2-0522

Lab Sample ID: 550-184772-14
Date Collected: 05/26/22 08:11
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 12:59	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP3-0522

Lab Sample ID: 550-184772-15
Date Collected: 05/26/22 08:30
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 12:41	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:17	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	276167	06/06/22 21:00	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 21:03	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:01	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276874	06/14/22 15:24	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP7-0522

Lab Sample ID: 550-184772-16
Date Collected: 05/26/22 08:38
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 13:09	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:34	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:04	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP9-0522 — Lab Sample ID: 550-184772-17

Date Collected: 05/26/22 08:48 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 13:37	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:36	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:08	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276874	06/14/22 15:26	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP10-0522 — Lab Sample ID: 550-184772-18

Date Collected: 05/26/22 09:00 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 14:05	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:39	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 12:32	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP11-0522 — Lab Sample ID: 550-184772-19

Date Collected: 05/26/22 09:08 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 14:33	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:42	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:10	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP12-0522 — Lab Sample ID: 550-184772-20

Date Collected: 05/26/22 09:18 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 15:01	RDC	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP12-0522 — Lab Sample ID: 550-184772-20

Date Collected: 05/26/22 09:18 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275660	06/01/22 10:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 22:13	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:16	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP13-0522 — Lab Sample ID: 550-184772-21

Date Collected: 05/26/22 09:28 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 16:52	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:44	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:18	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP14-0522 — Lab Sample ID: 550-184772-22

Date Collected: 05/26/22 09:38 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 17:20	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:47	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:20	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP15-0522 — Lab Sample ID: 550-184772-23

Date Collected: 05/26/22 09:45 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 17:48	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:49	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP15-0522

Lab Sample ID: 550-184772-23
Date Collected: 05/26/22 09:45
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	276318	06/07/22 18:34	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:22	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP16-0522

Lab Sample ID: 550-184772-24
Date Collected: 05/26/22 09:50
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100	275566	05/28/22 18:16	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:52	MGM	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	276318	06/07/22 18:36	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:25	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276874	06/14/22 15:29	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP17-0522

Lab Sample ID: 550-184772-25
Date Collected: 05/26/22 10:00
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100	275566	05/28/22 18:44	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:55	MGM	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276318	06/07/22 18:39	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276874	06/14/22 15:31	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276895	06/15/22 09:32	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP18-0522

Lab Sample ID: 550-184772-26

Date Collected: 05/26/22 10:10
Date Received: 05/27/22 14:05

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100	275566	05/28/22 19:12	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:57	MGM	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276318	06/07/22 18:42	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276874	06/14/22 15:33	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276895	06/15/22 09:34	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

184772

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 4 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Fe)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as	Sample Specific Notes:
FC-CCR-DMX03-0522 -01	5/25/2022	11:25	G	W	2	N		X						X	X			X	X	X	"
FC-CCR-DMX04-0522 -02	5/25/2022	13:50	G	W	2	N		X						X	X			X	X	X	"
FC-CCR-MW05-0522 -03	5/25/2022	12:15	G	W	2	N		X						X		X		X	X	X	"
FC-CCR-MW06-0522 -04	5/26/2022	15:30	G	W	2	N		X						X	X			X	X	X	"
FC-CCR-MW11-0522 -05	5/26/2022	12:28	G	W	2	N		X				X				X		X	X	X	"
FC-CCR-MW16-0522 -06	5/26/2022	14:15	G	W	2	N		X			X				X			X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	4	4	1	1	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.6°C, 0.3°C, 0.5°C ICE CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 5/27/22 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WDOL	14:05			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EEA DAY	Date/Time: 5-27-22 1405

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

550-184772 Chain of Custody

184772

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 4 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)					Sample Specific Notes:
FC-CCR-MW17R-0522 -07	5/25/2022	16:25	G	W	2	N		X						X	X			X	X	X					Low Flow
FC-CCR-MW18-0522 5/27/22 ~~-08~~ 08	5/25/2022	13:05	G	W	2	N		X						X		X		X	X	X					"
FC-CCR-MW23R-0522 -09	5/25/2022	9:58	G	W	2	N		X						X		X		X	X	X					"
FC-CCR-MW24-0522 -10	5/25/2022	14:50	G	W	2	N		X						X		X		X	X	X					"
FC-CCR-MW36R-0522 -11	5/25/2022	10:40	G	W	2	N		X						X		X		X	X	X					"
FC-CCR-MW38R-0522 -12	5/25/2022	17:25	G	W	2	N		X						X	X			X	X	X					"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	4	4	1	1	1					

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.6°C, 0.3°C, 0.2°C ice chs

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No.: 5/27/22 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Wood	14:05			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				EEN PHX	5-27-22 1405

184772

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

6/17/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	3 of 4 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl)	EPA 200.7 - Totals (B, Mg, Mn, Fe)	EPA 200.8 - Totals (Co, Mo)	SM 2540C (TDS)	Sample Specific Notes:
FC-CCR-SUMP1-0522 -13	5/26/2022	8:00	G	W	2	N		X	X	X	X	Grab sample
FC-CCR-SUMP2-0522 -14	5/26/2022	8:11	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP3-0522 -15	5/26/2022	8:30	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP7-0522 -16	5/26/2022	8:38	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP9-0522 -17	5/26/2022	8:48	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP10-0522 -18	5/26/2022	9:00	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP11-0522 -19	5/26/2022	9:08	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP12-0522 -20	5/26/2022	9:18	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP13-0522 -21	5/26/2022	9:28	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP14-0522 -22	5/26/2022	9:38	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP15-0522 -23	5/26/2022	9:45	G	W	2	N		X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☑ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.6°C 0.8°C 0.3°C IR COD

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 5127122 | Cooler Temp. (°C): Obs'd _____ Corr'd _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood	14:05			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EPA Dix	Date/Time: 5-27-22 1405

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

184772

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No.
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	4 of 4 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl)	EPA 200.7 - Totals (B, Mg, Mn, Fe)	EPA 200.8 - Totals (Co, Mo)	SM 2540C (TDS)	Sample Specific Notes:
FC-CCR-SUMP16-0522 -24	5/26/2022	9:50	G	W	2	N		X	X	X	X	Grab Sample
FC-CCR-SUMP17-0522 -25	5/26/2022	10:00	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP18-0522 -26	5/26/2022	10:10	G	W	2	N		X	X	X	X	"
								1	4	4	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☑ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.6°C, 0.8°C, 0.2°C ice cnd

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 5/27/22 | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood.	14:05			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EPA Div	Date/Time: 5-27-22 1405

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34125.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184772-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/13/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CRR-DMX03-0522 (550-184772-1)	5/25/22	11:25 Arizona		Water			X	1	AZ Sample
FC-CRR-DMX04-0522 (550-184772-2)	5/25/22	13:50 Arizona		Water			X	1	AZ Sample
FC-CRR-MW05-0522 (550-184772-3)	5/25/22	12:15 Arizona		Water			X	1	AZ Sample
FC-CRR-MW06-0522 (550-184772-4)	5/25/22	15:30 Arizona		Water			X	1	AZ Sample
FC-CRR-MW16-0522 (550-184772-6)	5/26/22	14:15 Arizona		Water			X	1	AZ Sample
FC-CRR-MW17R-0522 (550-184772-7)	5/25/22	16:25 Arizona		Water			X	1	AZ Sample
FC-CRR-MW18-0522 (550-184772-8)	5/25/22	13:05 Arizona		Water			X	1	AZ Sample
FC-CRR-MW23R-0522 (550-184772-9)	5/25/22	09:58 Arizona		Water			X	1	AZ Sample
FC-CRR-MW24-0522 (550-184772-10)	5/25/22	14:50 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature] 05-31-22	Date/Time: 13:45	Company: ECTSW	Received by: [signature]	Date/Time:	Company
Relinquished by: Fedex	Date/Time:	Company	Received by: [signature]	Date/Time: 6/1/22 945	Company: ETA/DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☑ Yes Δ No
Custody Seal No.: 1940833
Cooler Temperature(s) °C and Other Remarks: 0 5 IR12 CF+0.1

Ver: 06/08/2021

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34125.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184772-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/13/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
FC-CRR-MW36R-0522 (550-184772-11)	5/25/22	10:40 Arizona		Water			X	1	AZ Sample
FC-CRR-MW38R-0522 (550-184772-12)	5/25/22	17:25 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Emee 05-31-22	Date/Time: 13:45 EETSW	Company	Received by: Fedex	Date/Time:	Company
Relinquished by: Fedex	Date/Time:	Company	Received by: [signature]	Date/Time: 6/1/22 945	Company ETA/DEA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Λ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184772-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 184772
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184772-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 184772
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 06/01/22 04:59 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT

B

ACZ Laboratories, Inc.
Analytical Reports

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

May 16, 2022

Report to:
Maren Henley
Wood PLC
4600 East Washington St.
Suite 600
Tempe, AZ 85034-1917

Bill to:
Maren Henley
Wood PLC
4600 East Washington St.
Suite 600
Tempe, AZ 85034-1917

cc: Natalie Christman-Lazarr, Zachary Carroll

Project ID:
ACZ Project ID: L72735

Maren Henley:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 25, 2022. This project has been assigned to ACZ's project number, L72735. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L72735. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after June 15, 2022. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS11-0422

ACZ Sample ID: ***L72735-01***
Date Sampled: *04/21/22 10:35*
Date Received: *04/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP				*				05/03/22 21:00	keh1/ae
Total Hot Plate Digestion	M200.2 ICP-MS				*				05/03/22 7:55	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	100	0.0657	B		mg/L	0.04	0.2	05/04/22 13:34	kja
Arsenic, dissolved	M200.8 ICP-MS	100	0.478			mg/L	0.02	0.1	05/05/22 17:20	mfm
Arsenic, total	M200.8 ICP-MS	100	0.750			mg/L	0.02	0.1	05/04/22 13:34	kja
Barium, total	M200.8 ICP-MS	100	0.151	B		mg/L	0.05	0.25	05/04/22 13:34	kja
Beryllium, total	M200.8 ICP-MS	100	0.0106	B	*	mg/L	0.008	0.025	05/06/22 14:59	kja
Boron, total	M200.7 ICP	100	632			mg/L	3	10	05/06/22 15:27	wtc
Cadmium, total	M200.8 ICP-MS	100	<0.005	U		mg/L	0.005	0.025	05/04/22 13:34	kja
Calcium, total	M200.7 ICP	100	1340			mg/L	10	50	05/06/22 15:27	wtc
Chromium, total	M200.8 ICP-MS	100	<0.05	U		mg/L	0.05	0.2	05/04/22 13:34	kja
Cobalt, dissolved	M200.8 ICP-MS	100	0.0254			mg/L	0.005	0.025	05/05/22 17:20	mfm
Cobalt, total	M200.8 ICP-MS	100	0.0329			mg/L	0.005	0.025	05/04/22 13:34	kja
Iron, dissolved	M200.7 ICP	100	<6	U	*	mg/L	6	15	05/09/22 16:40	aeh
Iron, total	M200.7 ICP	100	<6	U	*	mg/L	6	15	05/09/22 15:55	aeh
Lead, total	M200.8 ICP-MS	100	<0.01	U		mg/L	0.01	0.05	05/04/22 13:34	kja
Lithium, total	M200.7 ICP	100	12.3			mg/L	0.8	4	05/06/22 15:27	wtc
Magnesium, total	M200.7 ICP	100	11300			mg/L	20	100	05/06/22 15:27	wtc
Manganese, dissolved	M200.7 ICP	100	25.2		*	mg/L	1	5	05/09/22 16:40	aeh
Manganese, total	M200.7 ICP	100	29.6			mg/L	1	5	05/06/22 15:27	wtc
Mercury, total	M245.1 CVAA	5	<0.001	U	*	mg/L	0.001	0.005	05/03/22 13:11	mlh
Molybdenum, total	M200.8 ICP-MS	100	0.826			mg/L	0.02	0.05	05/04/22 13:34	kja
Potassium, total	M200.7 ICP	100	621			mg/L	20	100	05/06/22 15:27	wtc
Selenium, total	M200.8 ICP-MS	100	0.614		*	mg/L	0.01	0.025	05/04/22 13:34	kja
Sodium, total	M200.7 ICP	100	34300			mg/L	20	100	05/06/22 15:27	wtc
Thallium, total	M200.8 ICP-MS	100	<0.01	U		mg/L	0.01	0.05	05/04/22 13:34	kja

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS11-0422

ACZ Sample ID: ***L72735-01***
Date Sampled: *04/21/22 10:35*
Date Received: *04/25/22*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	217			mg/L	2	20	04/27/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	04/27/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	04/27/22 0:00	jck
Total Alkalinity		1	217			mg/L	2	20	04/27/22 0:00	jck
Carbon, dissolved organic (DOC)	SM5310B	1	79.6		*	mg/L	1	5	05/11/22 11:14	krh
Carbon, total organic (TOC)	SM5310B	50	87.5	B	*	mg/L	50	250	04/29/22 20:26	mad
Chloride	M300.0 - Ion Chromatography	1000	48400		*	mg/L	400	2000	05/09/22 22:41	krh
Fluoride	SM4500F-C	1	21.2			mg/L	0.15	0.35	05/09/22 11:13	emk
Fluoride	M300.0 - Ion Chromatography	1000	69.6	B	*	mg/L	50	250	05/09/22 22:41	krh
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	<0.02	U	*	mg/L	0.02	0.1	05/06/22 2:10	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	20	<1	U	*	mg/L	1	4	05/05/22 11:43	mjj1
pH (lab)	SM4500H+ B									
pH		1	6.4	H		units	0.1	0.1	04/27/22 0:00	jck
pH measured at		1	21.6			C	0.1	0.1	04/27/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	50	149000			mg/L	1000	2000	04/27/22 15:15	emk
Sulfate	M300.0 - Ion Chromatography	1000	46200		*	mg/L	400	2000	05/09/22 22:41	krh

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-FD07-0422

ACZ Sample ID: ***L72735-02***
Date Sampled: *04/22/22 09:05*
Date Received: *04/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								05/03/22 7:55	mfm
Total Hot Plate Digestion	M200.2 ICP								05/05/22 10:32	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	05/04/22 13:44	kja
Arsenic, total	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	05/04/22 13:44	kja
Barium, total	M200.8 ICP-MS	1	0.0722			mg/L	0.0005	0.0025	05/04/22 13:44	kja
Beryllium, total	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	05/06/22 15:05	kja
Boron, total	M200.7 ICP	1	0.163			mg/L	0.03	0.1	05/10/22 12:36	wtc
Cadmium, total	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	05/04/22 13:44	kja
Calcium, total	M200.7 ICP	1	109			mg/L	0.1	0.5	05/10/22 12:36	wtc
Chromium, total	M200.8 ICP-MS	1	0.00801			mg/L	0.0005	0.002	05/04/22 13:44	kja
Cobalt, total	M200.8 ICP-MS	1	0.000489			mg/L	0.00005	0.00025	05/04/22 13:44	kja
Iron, total	M200.7 ICP	1	0.240			mg/L	0.06	0.15	05/10/22 12:36	wtc
Lead, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	05/04/22 13:44	kja
Lithium, total	M200.7 ICP	1	0.0349	B		mg/L	0.008	0.04	05/10/22 12:36	wtc
Manganese, total	M200.7 ICP	1	0.782			mg/L	0.01	0.05	05/10/22 12:36	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/03/22 13:12	mlh
Molybdenum, total	M200.8 ICP-MS	1	0.00332			mg/L	0.0002	0.0005	05/04/22 13:44	kja
Selenium, total	M200.8 ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.00025	05/04/22 13:44	kja
Thallium, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	05/04/22 13:44	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	10	622		*	mg/L	4	20	05/09/22 23:17	krh
Fluoride	SM4500F-C	1	0.58			mg/L	0.15	0.35	05/09/22 11:18	emk
Fluoride	M300.0 - Ion Chromatography	10	<0.5	U	*	mg/L	0.5	2.5	05/09/22 23:17	krh
Lab Filtration (0.45um filter)	SOPWC050	1							05/03/22 8:07	mlh
pH (lab)	SM4500H+ B									
pH		1	8.4	H		units	0.1	0.1	04/27/22 0:00	jck
pH measured at		1	21.8			C	0.1	0.1	04/27/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	1560			mg/L	20	40	04/27/22 15:17	emk
Sulfate	M300.0 - Ion Chromatography	10	284		*	mg/L	4	20	05/09/22 23:17	krh

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Wood PLC
Project ID:
Sample ID: CH-CCR-CR1R-0422-MS

ACZ Sample ID: ***L72735-03***
Date Sampled: *04/22/22 09:05*
Date Received: *04/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								05/03/22 7:55	mfm
Total Hot Plate Digestion	M200.2 ICP								05/05/22 10:46	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	05/04/22 13:45	kja
Arsenic, total	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	05/04/22 13:45	kja
Barium, total	M200.8 ICP-MS	1	0.0712			mg/L	0.0005	0.0025	05/04/22 13:45	kja
Beryllium, total	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	05/06/22 15:07	kja
Boron, total	M200.7 ICP	1	0.159			mg/L	0.03	0.1	05/10/22 12:40	wtc
Cadmium, total	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	05/04/22 13:45	kja
Calcium, total	M200.7 ICP	1	106			mg/L	0.1	0.5	05/10/22 12:40	wtc
Chromium, total	M200.8 ICP-MS	1	0.00178	B		mg/L	0.0005	0.002	05/04/22 13:45	kja
Cobalt, total	M200.8 ICP-MS	1	0.000467			mg/L	0.00005	0.00025	05/04/22 13:45	kja
Iron, total	M200.7 ICP	1	0.238			mg/L	0.06	0.15	05/10/22 12:40	wtc
Lead, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	05/04/22 13:45	kja
Lithium, total	M200.7 ICP	1	0.0352	B		mg/L	0.008	0.04	05/10/22 12:40	wtc
Manganese, total	M200.7 ICP	1	0.769			mg/L	0.01	0.05	05/10/22 12:40	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/03/22 13:15	mlh
Molybdenum, total	M200.8 ICP-MS	1	0.00299			mg/L	0.0002	0.0005	05/04/22 13:45	kja
Selenium, total	M200.8 ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.00025	05/04/22 13:45	kja
Thallium, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	05/04/22 13:45	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	10	598		*	mg/L	4	20	05/11/22 17:14	krh
Fluoride	SM4500F-C	1	0.47			mg/L	0.15	0.35	05/09/22 11:21	emk
Fluoride	M300.0 - Ion Chromatography	10	<0.5	U	*	mg/L	0.5	2.5	05/11/22 17:14	krh
Lab Filtration (0.45um filter)	SOPWC050	1							05/03/22 8:11	mlh
pH (lab)	SM4500H+ B									
pH		1	8.4	H		units	0.1	0.1	04/27/22 0:00	jck
pH measured at		1	21.7			C	0.1	0.1	04/27/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	1550			mg/L	20	40	04/27/22 15:19	emk
Sulfate	M300.0 - Ion Chromatography	10	241		*	mg/L	4	20	05/11/22 17:14	krh

Arizona license number: AZ0102

Wood PLC
Project ID:
Sample ID: CH-CCR-CR1R-0422-SD

ACZ Sample ID: ***L72735-04***
Date Sampled: *04/22/22 09:05*
Date Received: *04/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								05/03/22 7:55	mfm
Total Hot Plate Digestion	M200.2 ICP								05/05/22 11:27	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	05/04/22 13:47	kja
Arsenic, total	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	05/04/22 13:47	kja
Barium, total	M200.8 ICP-MS	1	0.0730			mg/L	0.0005	0.0025	05/04/22 13:47	kja
Beryllium, total	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	05/06/22 15:08	kja
Boron, total	M200.7 ICP	1	0.164			mg/L	0.03	0.1	05/10/22 12:49	wtc
Cadmium, total	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	05/04/22 13:47	kja
Calcium, total	M200.7 ICP	1	107			mg/L	0.1	0.5	05/10/22 12:49	wtc
Chromium, total	M200.8 ICP-MS	1	0.00436			mg/L	0.0005	0.002	05/04/22 13:47	kja
Cobalt, total	M200.8 ICP-MS	1	0.000504			mg/L	0.00005	0.00025	05/04/22 13:47	kja
Iron, total	M200.7 ICP	1	0.257			mg/L	0.06	0.15	05/10/22 12:49	wtc
Lead, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	05/04/22 13:47	kja
Lithium, total	M200.7 ICP	1	0.0347	B		mg/L	0.008	0.04	05/10/22 12:49	wtc
Manganese, total	M200.7 ICP	1	0.771			mg/L	0.01	0.05	05/10/22 12:49	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/03/22 13:16	mlh
Molybdenum, total	M200.8 ICP-MS	1	0.00323			mg/L	0.0002	0.0005	05/04/22 13:47	kja
Selenium, total	M200.8 ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.00025	05/04/22 13:47	kja
Thallium, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	05/04/22 13:47	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	10	612		*	mg/L	4	20	05/11/22 17:32	krh
Fluoride	SM4500F-C	1	0.46			mg/L	0.15	0.35	05/09/22 11:25	emk
Fluoride	M300.0 - Ion Chromatography	10	<0.5	U	*	mg/L	0.5	2.5	05/11/22 17:32	krh
Lab Filtration (0.45um filter)	SOPWC050	1							05/03/22 8:15	mlh
pH (lab)	SM4500H+ B									
pH		1	8.4	H		units	0.1	0.1	04/27/22 0:00	jck
pH measured at		1	21.7			C	0.1	0.1	04/27/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	1560			mg/L	20	40	04/27/22 15:21	emk
Sulfate	M300.0 - Ion Chromatography	10	243		*	mg/L	4	20	05/11/22 17:32	krh

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Reference

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

AMECAZ

ACZ Project ID: ***L72735***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541025													
WG541025PBW1	PBW	04/26/22 18:57				2.2	mg/L		-20	20			
WG541025LCSW3	LCSW	04/26/22 19:17	WC220415-10	820.0001		826.3	mg/L	101	90	110			
WG541025LCSW6	LCSW	04/26/22 22:39	WC220415-10	820.0001		827.3	mg/L	101	90	110			
WG541025PBW2	PBW	04/26/22 22:45				4.2	mg/L		-20	20			
WG541025LCSW9	LCSW	04/27/22 2:08	WC220415-10	820.0001		835.3	mg/L	102	90	110			
WG541025PBW3	PBW	04/27/22 2:14				6.1	mg/L		-20	20			
WG541025LCSW12	LCSW	04/27/22 5:51	WC220415-10	820.0001		841.8	mg/L	103	90	110			
WG541025PBW4	PBW	04/27/22 5:57				6.1	mg/L		-20	20			
L72756-01DUP	DUP	04/27/22 8:18			119	118.6	mg/L				0	20	
WG541025LCSW15	LCSW	04/27/22 8:38	WC220415-10	820.0001		851	mg/L	104	90	110			

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.0201		.01992	mg/L	99	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0012	0.0012			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00088	0.00088			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.01		.01018	mg/L	102	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.05	.0657	.12683	mg/L	122	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.05	.0657	.12576	mg/L	120	70	130	1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541619													
WG541619ICV	ICV	05/05/22 17:03	MS220502-1	.05		.05143	mg/L	103	90	110			
WG541619ICB	ICB	05/05/22 17:05				U	mg/L		-0.00044	0.00044			
WG541619LFB	LFB	05/05/22 17:06	MS220401-2	.05005		.0494	mg/L	99	85	115			
L72625-01AS	AS	05/05/22 17:10	MS220401-2	.05005	.00042	.05292	mg/L	105	70	130			
L72625-01ASD	ASD	05/05/22 17:12	MS220401-2	.05005	.00042	.05086	mg/L	101	70	130	4	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05237	mg/L	105	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0006	0.0006			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00044	0.00044			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05005		.05004	mg/L	100	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	.75	1.07001	mg/L	128	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	.75	1.05366	mg/L	121	70	130	2	20	

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ACZ Project ID: ***L72735***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Barium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05271	mg/L	105	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0015	0.0015			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.0011	0.0011			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.049985		.04921	mg/L	98	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.2505	.151	.44517	mg/L	117	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.2505	.151	.44447	mg/L	117	70	130	0	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541611													
WG541611ICV	ICV	05/06/22 14:35	MS220502-1	.05		.050653	mg/L	101	90	110			
WG541611ICB	ICB	05/06/22 14:37				U	mg/L		-0.00024	0.00024			
WG541352LRB	LRB	05/06/22 14:39				U	mg/L		-0.000176	0.000176			
WG541352LFB	LFB	05/06/22 14:41	MS220401-2	.05005		.051	mg/L	102	85	115			
L72735-01LFM	LFM	05/06/22 15:01	MS5XW	.25025	.0106	.225184	mg/L	86	70	130			
L72735-01LFMD	LFMD	05/06/22 15:03	MS5XW	.25025	.0106	.226827	mg/L	86	70	130	1	20	

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541592													
WG541592ICV	ICV	05/06/22 13:40	II220408-5	2		1.978	mg/L	99	95	105			
WG541592ICB	ICB	05/06/22 13:45				U	mg/L		-0.09	0.09			
WG541401LRB	LRB	05/06/22 13:58				U	mg/L		-0.066	0.066			
WG541401LFB	LFB	05/06/22 14:01	II220502-2	.5005		.512	mg/L	102	85	115			
L72726-04LFM	LFM	05/06/22 15:18	II220502-2	.5005	.088	.595	mg/L	101	70	130			
L72726-04LFMD	LFMD	05/06/22 15:21	II220502-2	.5005	.088	.603	mg/L	103	70	130	1	20	
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	2		2.021	mg/L	101	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.09	0.09			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.066	0.066			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	.5005		.503	mg/L	100	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	.5005	.159	.655	mg/L	99	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	.5005	.159	.649	mg/L	98	70	130	1	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.052385	mg/L	105	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.00015	0.00015			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00011	0.00011			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05005		.049086	mg/L	98	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	U	.286862	mg/L	115	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	U	.281354	mg/L	112	70	130	2	20	

AMECAZ

ACZ Project ID: ***L72735***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541592													
WG541592ICV	ICV	05/06/22 13:40	II220408-5	100		99.35	mg/L	99	95	105			
WG541592ICB	ICB	05/06/22 13:45				U	mg/L		-0.3	0.3			
WG541401LRB	LRB	05/06/22 13:58				U	mg/L		-0.22	0.22			
WG541401LFB	LFB	05/06/22 14:01	II220502-2	67.9908		69.33	mg/L	102	85	115			
L72726-04LFM	LFM	05/06/22 15:18	II220502-2	67.9908	110	178.7	mg/L	101	70	130			
L72726-04LFMD	LFMD	05/06/22 15:21	II220502-2	67.9908	110	176.7	mg/L	98	70	130	1	20	
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	100		100.26	mg/L	100	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.3	0.3			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.22	0.22			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	67.9908		67.35	mg/L	99	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	67.9908	106	172.7	mg/L	98	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	67.9908	106	174.3	mg/L	100	70	130	1	20	

Carbon, dissolved organic (DOC) SM5310B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541867													
WG541867LFB	LFB	05/11/22 5:35	WI220510-9	50		48.7	mg/L	97	90	110			
L72707-01DUP	DUP	05/11/22 11:00			U	U	mg/L				0	20	RA
L72735-01AS	AS	05/11/22 11:30	WI220510-9	50	79.6	129.1	mg/L	99	90	110			

Carbon, total organic (TOC) SM5310B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541202													
WG541202ICV	ICV	04/29/22 16:36	WI220428-4	100		99.1	mg/L	99	90	110			
WG541202ICB	ICB	04/29/22 16:43				U	mg/L		-3	3			
WG541202LFB	LFB	04/29/22 17:05	WI220308-1	50		48	mg/L	96	90	110			
L72710-09DUP	DUP	04/29/22 20:17			6.5	6.5	mg/L				0	20	RA
L72735-01AS	AS	04/29/22 20:37	WI220308-1	2500	87.5	2245	mg/L	86	90	110			M2

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	19.96		19.92	mg/L	100	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG541802													
WG541802LFB1	LFB	05/09/22 17:37	WI211112-6	30		30.39	mg/L	101	90	110			
L72710-14DUP	DUP	05/09/22 22:23			U	42.47	mg/L				200	20	RA
L72735-01AS	AS	05/09/22 22:59	WI211112-6	30000	48400	78224.63	mg/L	99	90	110			
WG541802LFB2	LFB	05/10/22 2:16	WI211112-6	30		30.54	mg/L	102	90	110			

AMECAZ

ACZ Project ID: ***L72735***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05236	mg/L	105	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0015	0.0015			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.0011	0.0011			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05		.04972	mg/L	99	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	U	.31336	mg/L	125	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	U	.30944	mg/L	124	70	130	1	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541619													
WG541619ICV	ICV	05/05/22 17:03	MS220502-1	.05		.053404	mg/L	107	90	110			
WG541619ICB	ICB	05/05/22 17:05				U	mg/L		-0.00011	0.00011			
WG541619LFB	LFB	05/05/22 17:06	MS220401-2	.05005		.049801	mg/L	100	85	115			
L72625-01AS	AS	05/05/22 17:10	MS220401-2	.05005	.000432	.050206	mg/L	99	70	130			
L72625-01ASD	ASD	05/05/22 17:12	MS220401-2	.05005	.000432	.049034	mg/L	97	70	130	2	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.053761	mg/L	108	90	110			
WG541484ICB	ICB	05/04/22 13:01				.000052	mg/L		-0.00015	0.00015			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00011	0.00011			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05005		.050589	mg/L	101	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	.0329	.313272	mg/L	112	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	.0329	.307519	mg/L	110	70	130	2	20	

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	4.016		4.235	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.05	0.05			
WG541802													
WG541802LFB1	LFB	05/09/22 17:37	WI211112-6	1.5		1.509	mg/L	101	90	110			
L72710-14DUP	DUP	05/09/22 22:23			U	U	mg/L				0	20	RA
L72735-01AS	AS	05/09/22 22:59	WI211112-6	1500	69.6	1481.101	mg/L	94	90	110			
WG541802LFB2	LFB	05/10/22 2:16	WI211112-6	1.5		1.478	mg/L	99	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541761													
WG541761ICV	ICV	05/09/22 10:33	WC220509-1	2.008		2.03	mg/L	101	90	110			
WG541761ICB	ICB	05/09/22 10:39				U	mg/L		-0.3	0.3			
WG541761LFB1	LFB	05/09/22 10:47	WC220104-2	5.02		5.02	mg/L	100	90	110			
L72682-01AS	AS	05/09/22 10:56	WC220104-2	5.02	.22	4.86	mg/L	92	90	110			
L72682-01ASD	ASD	05/09/22 10:59	WC220104-2	5.02	.22	5	mg/L	95	90	110	3	20	
WG541761LFB2	LFB	05/09/22 13:05	WC220104-2	5.02		5.16	mg/L	103	90	110			

AMECAZ

ACZ Project ID: ***L72735***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541689													
WG541689ICV	ICV	05/09/22 15:08	II220427-2	2		2.011	mg/L	101	95	105			
WG541689ICB	ICB	05/09/22 15:14				U	mg/L		-0.18	0.18			
WG541689LFB	LFB	05/09/22 15:26	II220505-2	1.0013		1.02	mg/L	102	85	115			
L72726-04AS	AS	05/09/22 16:28	II220505-2	1.0013	129	123.1	mg/L	-589	85	115			M3
L72726-04ASD	ASD	05/09/22 16:31	II220505-2	1.0013	129	123	mg/L	-599	85	115	0	20	M3

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541783													
WG541783ICV	ICV	05/09/22 14:35	II220408-5	2		2.023	mg/L	101	95	105			
WG541783ICB	ICB	05/09/22 14:41				U	mg/L		-0.18	0.18			
WG541401LRB	LRB	05/09/22 14:54				U	mg/L		-0.132	0.132			
WG541401LFB	LFB	05/09/22 14:58	II220502-2	1.0013		1.015	mg/L	101	85	115			
L72726-04LFM	LFM	05/09/22 15:46	II220502-2	1.0013	134	134.5	mg/L	50	70	130			M3
L72726-04LFMD	LFMD	05/09/22 15:49	II220502-2	1.0013	134	135.1	mg/L	110	70	130	0	20	
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	2		1.992	mg/L	100	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.18	0.18			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.132	0.132			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	1.0013		1.006	mg/L	100	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	1.0013	.238	1.192	mg/L	95	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	1.0013	.238	1.189	mg/L	95	70	130	0	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05221	mg/L	104	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0003	0.0003			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00022	0.00022			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.0501		.04918	mg/L	98	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	U	.29454	mg/L	118	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	U	.29127	mg/L	116	70	130	1	20	

AMECAZ

ACZ Project ID: ***L72735***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541592													
WG541592ICV	ICV	05/06/22 13:40	II220408-5	2		1.9852	mg/L	99	95	105			
WG541592ICB	ICB	05/06/22 13:45				U	mg/L		-0.024	0.024			
WG541401LRB	LRB	05/06/22 13:58				U	mg/L		-0.0176	0.0176			
WG541401LFB	LFB	05/06/22 14:01	II220502-2	.998		1.029	mg/L	103	85	115			
L72726-04LFM	LFM	05/06/22 15:18	II220502-2	.998	.0542	1.096	mg/L	104	70	130			
L72726-04LFMD	LFMD	05/06/22 15:21	II220502-2	.998	.0542	1.087	mg/L	103	70	130	1	20	
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	2		2.0125	mg/L	101	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.024	0.024			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.0176	0.0176			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	.998		.9965	mg/L	100	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	.998	.0352	1.052	mg/L	102	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	.998	.0352	1.059	mg/L	103	70	130	1	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541592													
WG541592ICV	ICV	05/06/22 13:40	II220408-5	100		95.34	mg/L	95	95	105			
WG541592ICB	ICB	05/06/22 13:45				U	mg/L		-0.6	0.6			
WG541401LRB	LRB	05/06/22 13:58				U	mg/L		-0.44	0.44			
WG541401LFB	LFB	05/06/22 14:01	II220502-2	49.99922		48.74	mg/L	97	85	115			
L72726-04LFM	LFM	05/06/22 15:18	II220502-2	49.99922	37.6	86.42	mg/L	98	70	130			
L72726-04LFMD	LFMD	05/06/22 15:21	II220502-2	49.99922	37.6	85.43	mg/L	96	70	130	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541689													
WG541689ICV	ICV	05/09/22 15:08	II220427-2	2		1.947	mg/L	97	95	105			
WG541689ICB	ICB	05/09/22 15:14				U	mg/L		-0.03	0.03			
WG541689LFB	LFB	05/09/22 15:26	II220505-2	.499		.504	mg/L	101	85	115			
L72726-04AS	AS	05/09/22 16:28	II220505-2	.499	5.31	5.531	mg/L	44	85	115			M3
L72726-04ASD	ASD	05/09/22 16:31	II220505-2	.499	5.31	5.522	mg/L	42	85	115	0	20	M3

AMECAZ

ACZ Project ID: ***L72735***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Manganese, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541592													
WG541592ICV	ICV	05/06/22 13:40	II220408-5	2		1.946	mg/L	97	95	105			
WG541592ICB	ICB	05/06/22 13:45				U	mg/L		-0.03	0.03			
WG541401LRB	LRB	05/06/22 13:58				U	mg/L		-0.022	0.022			
WG541401LFB	LFB	05/06/22 14:01	II220502-2	.499		.515	mg/L	103	85	115			
L72726-04LFM	LFM	05/06/22 15:18	II220502-2	.499	5.6	6.056	mg/L	91	70	130			
L72726-04LFMD	LFMD	05/06/22 15:21	II220502-2	.499	5.6	5.977	mg/L	76	70	130	1	20	
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	2		1.967	mg/L	98	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.03	0.03			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.022	0.022			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	.499		.492	mg/L	99	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	.499	.769	1.244	mg/L	95	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	.499	.769	1.249	mg/L	96	70	130	0	20	

Mercury, total M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541272													
WG541272ICV	ICV	05/03/22 10:41	HG220425-3	.005005		.00514	mg/L	103	95	105			
WG541272ICB	ICB	05/03/22 10:42				U	mg/L		-0.0002	0.0002			
WG541356													
WG541356LRB	LRB	05/03/22 13:09				U	mg/L		-0.00044	0.00044			
WG541356LFB	LFB	05/03/22 13:10	HG220425-6	.002002		.00205	mg/L	102	85	115			
L72735-02LFM	LFM	05/03/22 13:13	HG220425-6	.002002	U	.00209	mg/L	104	85	115			
L72735-02LFMD	LFMD	05/03/22 13:14	HG220425-6	.002002	U	.00215	mg/L	107	85	115	3	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.02		.01995	mg/L	100	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0006	0.0006			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00044	0.00044			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05005		.05001	mg/L	100	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.2505	.826	1.10981	mg/L	113	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.2505	.826	1.1105	mg/L	114	70	130	0	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541624													
WG541624ICV	ICV	05/05/22 22:45	WI220301-7	2.4161		2.245	mg/L	93	90	110			
WG541624ICB	ICB	05/05/22 22:47				U	mg/L		-0.02	0.02			
WG541628													
WG541628LFB	LFB	05/06/22 1:59	WI220401-10	2		1.93	mg/L	97	90	110			
L72682-01DUP	DUP	05/06/22 2:07			U	U	mg/L				0	20	RA
L72682-01AS	AS	05/06/22 2:08	WI220401-10	2	U	1.871	mg/L	94	90	110			

AMECAZ

ACZ Project ID: ***L72735***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541464													
WG541464ICV	ICV	05/05/22 11:09	WI220420-2	12.024		11.843	mg/L	98	90	110			
WG541464ICB	ICB	05/05/22 11:10				U	mg/L		-0.05	0.05			
WG541464LFB1	LFB	05/05/22 11:12	WI220420-3	10		10.074	mg/L	101	90	110			
L72730-02AS	AS	05/05/22 11:35	WI220420-3	10	U	10.138	mg/L	101	90	110			
L72730-03DUP	DUP	05/05/22 11:38			U	U	mg/L				0	20	RA
WG541464LFB2	LFB	05/05/22 11:54	WI220420-3	10		10.165	mg/L	102	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541025													
WG541025LCSW1	LCSW	04/26/22 19:02	PCN64057	6		6.1	units	102	5.9	6.1			
WG541025LCSW4	LCSW	04/26/22 22:24	PCN64057	6		6.1	units	102	5.9	6.1			
WG541025LCSW7	LCSW	04/27/22 1:53	PCN64057	6		6.1	units	102	5.9	6.1			
WG541025LCSW10	LCSW	04/27/22 5:36	PCN64057	6		6.1	units	102	5.9	6.1			
L72756-01DUP	DUP	04/27/22 8:18			8.2	8.2	units				0	20	
WG541025LCSW13	LCSW	04/27/22 8:23	PCN64057	6		6.1	units	102	5.9	6.1			

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541592													
WG541592ICV	ICV	05/06/22 13:40	II220408-5	20		19.8	mg/L	99	95	105			
WG541592ICB	ICB	05/06/22 13:45				U	mg/L		-0.6	0.6			
WG541401LRB	LRB	05/06/22 13:58				U	mg/L		-0.44	0.44			
WG541401LFB	LFB	05/06/22 14:01	II220502-2	99.96218		100.8	mg/L	101	85	115			
L72726-04LFM	LFM	05/06/22 15:18	II220502-2	99.96218	8.34	110.9	mg/L	103	70	130			
L72726-04LFMD	LFMD	05/06/22 15:21	II220502-2	99.96218	8.34	110.1	mg/L	102	70	130	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541093													
WG541093PBW	PBW	04/27/22 15:00				U	mg/L		-20	20			
WG541093LCSW	LCSW	04/27/22 15:01	PCN63848	1000		992	mg/L	99	80	120			
L72735-04DUP	DUP	04/27/22 15:23			1560	1552	mg/L				1	10	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05232	mg/L	105	90	110			
WG541484ICB	ICB	05/04/22 13:01				.00015	mg/L		-0.0003	0.0003			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00022	0.00022			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05		.04929	mg/L	99	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	.614	.76164	mg/L	59	70	130			M2
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	.614	.70783	mg/L	37	70	130	7	20	M2

AMECAZ

ACZ Project ID: ***L72735***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541592													
WG541592ICV	ICV	05/06/22 13:40	II220408-5	100		99.05	mg/L	99	95	105			
WG541592ICB	ICB	05/06/22 13:45				U	mg/L		-0.6	0.6			
WG541401LRB	LRB	05/06/22 13:58				U	mg/L		-0.44	0.44			
WG541401LFB	LFB	05/06/22 14:01	II220502-2	100.0282		99.83	mg/L	100	85	115			
L72726-04LFM	LFM	05/06/22 15:18	II220502-2	100.0282	86.4	186.4	mg/L	100	70	130			
L72726-04LFMD	LFMD	05/06/22 15:21	II220502-2	100.0282	86.4	184.9	mg/L	98	70	130	1	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	51.15		53.75	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG541802													
WG541802LFB1	LFB	05/09/22 17:37	WI211112-6	30		32.21	mg/L	107	90	110			
L72710-14DUP	DUP	05/09/22 22:23			5090	5096.47	mg/L				0	20	
L72735-01AS	AS	05/09/22 22:59	WI211112-6	30000	46200	82083.5	mg/L	120	90	110			M1
WG541802LFB2	LFB	05/10/22 2:16	WI211112-6	30		31.26	mg/L	104	90	110			

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05347	mg/L	107	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0003	0.0003			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00022	0.00022			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05		.04909	mg/L	98	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.2505	U	.30387	mg/L	121	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.2505	U	.30151	mg/L	120	70	130	1	20	

Wood PLC ACZ Project ID: ***L72735***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L72735-01	WG541611	Beryllium, total	M200.8 ICP-MS	D2	Sample required dilution. Target analyte exceeded calibration range.
	WG541867	Carbon, dissolved organic (DOC)	SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541202	Carbon, total organic (TOC)	SM5310B	DD	Sample required dilution due to matrix color or odor.
			SM5310B	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541802	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541689	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541783	Iron, total	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541689	Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541356	Mercury, total	M245.1 CVAA	D1	Sample required dilution due to matrix.
			M245.1 CVAA	DA	Sample required dilution due to reactivity.
	WG541628	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541464	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	DD	Sample required dilution due to matrix color or odor.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541484	Selenium, total	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541802	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541401	Total Hot Plate Digestion	M200.2 ICP	DD	Sample required dilution due to matrix color or odor.
	WG541352		M200.2 ICP-MS	DF	Sample required dilution due to high sediment.
L72735-02	WG541802	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541484	Selenium, total	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541802	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.

Wood PLC ACZ Project ID: ***L72735***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L72735-03	WG541802	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541484	Selenium, total	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541802	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
L72735-04	WG541802	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541484	Selenium, total	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541802	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Wood PLC

ACZ Project ID: L72735
Date Received: 04/25/2022 09:46
Received By:
Date Printed: 4/26/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

The 'Relinquished By' field on the COC was not completed. The project manager is contacting the client.

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
4220	3.8	<=6.0	15	No

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Wood PLC

ACZ Project ID:	L72735
Date Received:	04/25/2022 09:46
Received By:	
Date Printed:	4/26/2022

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L72735

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Natalie Christman-Lazarr
Company: Arizona Public Service Company
E-mail: Natalie.ChrismanLazarr@aps.com

Address: 400 N 5th St
Phoenix, AZ 85004
Telephone: 602-316-1324

Copy of Report to:

Name: Maren Henley (maren.henley@woodplc
Company: Wood Plc

E-mail: rebecca.weaver@woodplc.com &
Telephone: mari.wuollet@woodplc.com

Invoice to:

Name: Maren Henley
Company: Wood Plc
E-mail: apinvoice.us@woodplc.com

Address: 4600 E Washington St #600
Phoenix, AZ 85034
Telephone: 602-733-6000

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☒

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: _____ **Sampler's Site Information** **State** AZ **Zip code** 85034 **Time Zone** MST

***Sampler's Signature:** _____

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: AMECAZ-CHOLLA
PO#:
Reporting state for compliance testing: Arizona
Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	BAP-Petroglyph	CR-1R-M-257A	FAP	M-54-M-60	M-63A	MW-72M-W-307R	W-123R	
CH-CCR-SS11-0422	4/21/22:10:35	O	6	☐	☐	☒	☐	☐	☐	☐	☐
CH-CCR-FD07-0422	4/22/22:09:05	GW	3	☐	☒	☐	☐	☐	☐	☐	☐
CH-CCR-CR1R-0422-MS	4/22/22:09:05	GW	3	☐	☒	☐	☐	☐	☐	☐	☐
CH-CCR-CR1R-0422-SD	4/22/22:09:05	GW	3	☐	☒	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

O (other matrix) = CCR surface impoundment water

Please ensure copy of report and EDDs are also sent to zachary.carroll@woodplc.com

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
			4/25/22 9:46

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L72735 Chain of Custod

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

May 16, 2022

Report to:
Maren Henley
Wood PLC
4600 East Washington St.
Suite 600
Tempe, AZ 85034-1917

Bill to:
Maren Henley
Wood PLC
4600 East Washington St.
Suite 600
Tempe, AZ 85034-1917

cc: Natalie Christman-Lazarr, Zachary Carroll

Project ID:
ACZ Project ID: L72736

Maren Henley:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 25, 2022. This project has been assigned to ACZ's project number, L72736. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L72736. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after June 15, 2022. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS03-0422

ACZ Sample ID: ***L72736-01***
Date Sampled: *04/22/22 09:05*
Date Received: *04/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								05/03/22 7:55	mfm
Total Hot Plate Digestion	M200.2 ICP								05/05/22 11:41	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	05/04/22 13:49	kja
Arsenic, total	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	05/04/22 13:49	kja
Barium, total	M200.8 ICP-MS	1	0.0732			mg/L	0.0005	0.0025	05/04/22 13:49	kja
Beryllium, total	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	05/06/22 15:10	kja
Boron, total	M200.7 ICP	1	0.153			mg/L	0.03	0.1	05/10/22 12:52	wtc
Cadmium, total	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	05/04/22 13:49	kja
Calcium, total	M200.7 ICP	1	105			mg/L	0.1	0.5	05/10/22 12:52	wtc
Chromium, total	M200.8 ICP-MS	1	0.00377			mg/L	0.0005	0.002	05/04/22 13:49	kja
Cobalt, total	M200.8 ICP-MS	1	0.000498			mg/L	0.00005	0.00025	05/04/22 13:49	kja
Iron, total	M200.7 ICP	1	0.227			mg/L	0.06	0.15	05/10/22 12:52	wtc
Lead, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	05/04/22 13:49	kja
Lithium, total	M200.7 ICP	1	0.0346	B		mg/L	0.008	0.04	05/10/22 12:52	wtc
Manganese, total	M200.7 ICP	1	0.756			mg/L	0.01	0.05	05/10/22 12:52	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/03/22 13:17	mlh
Molybdenum, total	M200.8 ICP-MS	1	0.00322			mg/L	0.0002	0.0005	05/04/22 13:49	kja
Selenium, total	M200.8 ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.00025	05/04/22 13:49	kja
Thallium, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	05/04/22 13:49	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	10	604		*	mg/L	4	20	05/11/22 17:50	krh
Fluoride	SM4500F-C	1	0.45			mg/L	0.15	0.35	05/09/22 11:28	emk
Fluoride	M300.0 - Ion Chromatography	10	<0.5	U	*	mg/L	0.5	2.5	05/11/22 17:50	krh
Lab Filtration (0.45um filter)	SOPWC050	1							05/03/22 8:18	mlh
pH (lab)	SM4500H+ B									
pH		1	8.4	H		units	0.1	0.1	04/27/22 0:00	jck
pH measured at		1	22.1			C	0.1	0.1	04/27/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	1560			mg/L	20	40	04/27/22 15:25	emk
Sulfate	M300.0 - Ion Chromatography	10	241		*	mg/L	4	20	05/11/22 17:50	krh

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS07-0422

ACZ Sample ID: ***L72736-02***
Date Sampled: *04/21/22 13:40*
Date Received: *04/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP								05/05/22 11:55	aeh
Total Hot Plate Digestion	M200.2 ICP-MS								05/03/22 7:55	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	5	0.00202	B		mg/L	0.002	0.01	05/04/22 13:51	kja
Arsenic, dissolved	M200.8 ICP-MS	5	0.0171			mg/L	0.001	0.005	05/05/22 17:21	mfm
Arsenic, total	M200.8 ICP-MS	5	0.0233			mg/L	0.001	0.005	05/04/22 13:51	kja
Barium, total	M200.8 ICP-MS	5	0.275			mg/L	0.0025	0.0125	05/04/22 13:51	kja
Beryllium, total	M200.8 ICP-MS	5	<0.0004	U		mg/L	0.0004	0.00125	05/06/22 15:12	kja
Boron, total	M200.7 ICP	5	3.61			mg/L	0.15	0.5	05/10/22 12:55	wtc
Cadmium, total	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	05/04/22 13:51	kja
Calcium, total	M200.7 ICP	5	688			mg/L	0.5	2.5	05/10/22 12:55	wtc
Chromium, total	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	05/04/22 13:51	kja
Cobalt, dissolved	M200.8 ICP-MS	5	0.00191			mg/L	0.00025	0.00125	05/05/22 17:21	mfm
Cobalt, total	M200.8 ICP-MS	5	0.00309			mg/L	0.00025	0.00125	05/04/22 13:51	kja
Iron, dissolved	M200.7 ICP	5	<0.3	U	*	mg/L	0.3	0.75	05/09/22 16:43	aeh
Iron, total	M200.7 ICP	5	<0.3	U		mg/L	0.3	0.75	05/10/22 12:55	wtc
Lead, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	05/04/22 13:51	kja
Lithium, total	M200.7 ICP	5	0.213			mg/L	0.04	0.2	05/10/22 12:55	wtc
Magnesium, total	M200.7 ICP	5	232			mg/L	1	5	05/10/22 12:55	wtc
Manganese, dissolved	M200.7 ICP	5	<0.05	U	*	mg/L	0.05	0.25	05/09/22 16:43	aeh
Manganese, total	M200.7 ICP	5	1.24			mg/L	0.05	0.25	05/10/22 12:55	wtc
Molybdenum, total	M200.8 ICP-MS	5	0.0335			mg/L	0.001	0.0025	05/04/22 13:51	kja
Potassium, total	M200.7 ICP	5	15.4			mg/L	1	5	05/10/22 12:55	wtc
Selenium, total	M200.8 ICP-MS	5	0.0297		*	mg/L	0.0005	0.00125	05/04/22 13:51	kja
Sodium, total	M200.7 ICP	5	1550			mg/L	1	5	05/10/22 12:55	wtc
Thallium, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	05/04/22 13:51	kja

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS07-0422

ACZ Sample ID: ***L72736-02***
Date Sampled: *04/21/22 13:40*
Date Received: *04/25/22*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	159			mg/L	2	20	04/27/22 0:00	jck
Carbonate as CaCO3		1	12.1	B		mg/L	2	20	04/27/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	04/27/22 0:00	jck
Total Alkalinity		1	171			mg/L	2	20	04/27/22 0:00	jck
Carbon, dissolved organic (DOC)	SM5310B	1	2.5	B	*	mg/L	1	5	05/11/22 11:45	krh
Carbon, total organic (TOC)	SM5310B	1	2.6	B	*	mg/L	1	5	04/29/22 20:50	mad
Chloride	M300.0 - Ion Chromatography	50	1700		*	mg/L	20	100	05/10/22 1:05	krh
Fluoride	SM4500F-C	1	3.21			mg/L	0.15	0.35	05/09/22 11:43	emk
Fluoride	M300.0 - Ion Chromatography	50	2.72	B	*	mg/L	2.5	12.5	05/10/22 1:05	krh
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	<0.02	U	*	mg/L	0.02	0.1	05/06/22 2:11	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	<0.05	U	*	mg/L	0.05	0.2	05/05/22 11:47	mjj1
pH (lab)	SM4500H+ B									
pH		1	8.4	H		units	0.1	0.1	04/27/22 0:00	jck
pH measured at		1	22.3			C	0.1	0.1	04/27/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	2	6640			mg/L	40	80	04/27/22 15:27	emk
Sulfate	M300.0 - Ion Chromatography	50	2640		*	mg/L	20	100	05/10/22 1:05	krh

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Wood PLC
Project ID:
Sample ID: CH-CCR-SS08-0422

ACZ Sample ID: ***L72736-03***
Date Sampled: *04/21/22 14:56*
Date Received: *04/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP								05/05/22 12:09	aeh
Total Hot Plate Digestion	M200.2 ICP-MS								05/03/22 7:55	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	5	<0.002	U		mg/L	0.002	0.01	05/04/22 13:53	kja
Arsenic, dissolved	M200.8 ICP-MS	5	0.00163	B		mg/L	0.001	0.005	05/05/22 17:23	mfm
Arsenic, total	M200.8 ICP-MS	5	0.00197	B		mg/L	0.001	0.005	05/04/22 13:53	kja
Barium, total	M200.8 ICP-MS	5	0.00699	B		mg/L	0.0025	0.0125	05/04/22 13:53	kja
Beryllium, total	M200.8 ICP-MS	5	<0.0004	U		mg/L	0.0004	0.00125	05/06/22 15:14	kja
Boron, total	M200.7 ICP	5	2.94			mg/L	0.15	0.5	05/10/22 12:58	wtc
Cadmium, total	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	05/04/22 13:53	kja
Calcium, total	M200.7 ICP	5	521			mg/L	0.5	2.5	05/10/22 12:58	wtc
Chromium, total	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	05/04/22 13:53	kja
Cobalt, dissolved	M200.8 ICP-MS	5	0.0180			mg/L	0.00025	0.00125	05/05/22 17:23	mfm
Cobalt, total	M200.8 ICP-MS	5	0.0225			mg/L	0.00025	0.00125	05/04/22 13:53	kja
Iron, dissolved	M200.7 ICP	5	<0.3	U	*	mg/L	0.3	0.75	05/09/22 16:47	aeh
Iron, total	M200.7 ICP	5	0.379	B		mg/L	0.3	0.75	05/10/22 12:58	wtc
Lead, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	05/04/22 13:53	kja
Lithium, total	M200.7 ICP	5	0.165	B		mg/L	0.04	0.2	05/10/22 12:58	wtc
Magnesium, total	M200.7 ICP	5	249			mg/L	1	5	05/10/22 12:58	wtc
Manganese, dissolved	M200.7 ICP	5	1.16		*	mg/L	0.05	0.25	05/09/22 16:47	aeh
Manganese, total	M200.7 ICP	5	0.078	B		mg/L	0.05	0.25	05/10/22 12:58	wtc
Molybdenum, total	M200.8 ICP-MS	5	0.0274			mg/L	0.001	0.0025	05/04/22 13:53	kja
Potassium, total	M200.7 ICP	5	23.8			mg/L	1	5	05/10/22 12:58	wtc
Selenium, total	M200.8 ICP-MS	5	<0.0005	U	*	mg/L	0.0005	0.00125	05/04/22 13:53	kja
Sodium, total	M200.7 ICP	5	1240			mg/L	1	5	05/10/22 12:58	wtc
Thallium, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	05/04/22 13:53	kja

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS08-0422

ACZ Sample ID: ***L72736-03***
Date Sampled: *04/21/22 14:56*
Date Received: *04/25/22*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	81.7			mg/L	2	20	04/27/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	04/27/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	04/27/22 0:00	jck
Total Alkalinity		1	81.7			mg/L	2	20	04/27/22 0:00	jck
Carbon, dissolved organic (DOC)	SM5310B	1	<1	U	*	mg/L	1	5	05/11/22 11:54	krh
Carbon, total organic (TOC)	SM5310B	1	<1	U	*	mg/L	1	5	04/29/22 20:59	mad
Chloride	M300.0 - Ion Chromatography	50	2160		*	mg/L	20	100	05/11/22 18:08	krh
Fluoride	SM4500F-C	1	3.21			mg/L	0.15	0.35	05/09/22 11:47	emk
Fluoride	M300.0 - Ion Chromatography	50	3.14	B	*	mg/L	2.5	12.5	05/11/22 18:08	krh
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.294		*	mg/L	0.02	0.1	05/06/22 2:17	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	<0.05	U	*	mg/L	0.05	0.2	05/05/22 11:48	mjj1
pH (lab)	SM4500H+ B									
pH		1	8.0	H		units	0.1	0.1	04/27/22 0:00	jck
pH measured at		1	22.1			C	0.1	0.1	04/27/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	5	7930			mg/L	100	200	04/27/22 15:29	emk
Sulfate	M300.0 - Ion Chromatography	50	3010		*	mg/L	20	100	05/11/22 18:08	krh

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Reference

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

AMECAZ

ACZ Project ID: ***L72736***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541025													
WG541025PBW1	PBW	04/26/22 18:57				2.2	mg/L		-20	20			
WG541025LCSW3	LCSW	04/26/22 19:17	WC220415-10	820.0001		826.3	mg/L	101	90	110			
WG541025LCSW6	LCSW	04/26/22 22:39	WC220415-10	820.0001		827.3	mg/L	101	90	110			
WG541025PBW2	PBW	04/26/22 22:45				4.2	mg/L		-20	20			
WG541025LCSW9	LCSW	04/27/22 2:08	WC220415-10	820.0001		835.3	mg/L	102	90	110			
WG541025PBW3	PBW	04/27/22 2:14				6.1	mg/L		-20	20			
WG541025LCSW12	LCSW	04/27/22 5:51	WC220415-10	820.0001		841.8	mg/L	103	90	110			
WG541025PBW4	PBW	04/27/22 5:57				6.1	mg/L		-20	20			
L72756-01DUP	DUP	04/27/22 8:18			119	118.6	mg/L				0	20	
WG541025LCSW15	LCSW	04/27/22 8:38	WC220415-10	820.0001		851	mg/L	104	90	110			

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.0201		.01992	mg/L	99	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0012	0.0012			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00088	0.00088			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.01		.01018	mg/L	102	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.05	.0657	.12683	mg/L	122	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.05	.0657	.12576	mg/L	120	70	130	1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541619													
WG541619ICV	ICV	05/05/22 17:03	MS220502-1	.05		.05143	mg/L	103	90	110			
WG541619ICB	ICB	05/05/22 17:05				U	mg/L		-0.00044	0.00044			
WG541619LFB	LFB	05/05/22 17:06	MS220401-2	.05005		.0494	mg/L	99	85	115			
L72625-01AS	AS	05/05/22 17:10	MS220401-2	.05005	.00042	.05292	mg/L	105	70	130			
L72625-01ASD	ASD	05/05/22 17:12	MS220401-2	.05005	.00042	.05086	mg/L	101	70	130	4	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05237	mg/L	105	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0006	0.0006			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00044	0.00044			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05005		.05004	mg/L	100	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	.75	1.07001	mg/L	128	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	.75	1.05366	mg/L	121	70	130	2	20	

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ACZ Project ID: ***L72736***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Barium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05271	mg/L	105	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0015	0.0015			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.0011	0.0011			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.049985		.04921	mg/L	98	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.2505	.151	.44517	mg/L	117	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.2505	.151	.44447	mg/L	117	70	130	0	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541611													
WG541611ICV	ICV	05/06/22 14:35	MS220502-1	.05		.050653	mg/L	101	90	110			
WG541611ICB	ICB	05/06/22 14:37				U	mg/L		-0.00024	0.00024			
WG541352LRB	LRB	05/06/22 14:39				U	mg/L		-0.000176	0.000176			
WG541352LFB	LFB	05/06/22 14:41	MS220401-2	.05005		.051	mg/L	102	85	115			
L72735-01LFM	LFM	05/06/22 15:01	MS5XW	.25025	.0106	.225184	mg/L	86	70	130			
L72735-01LFMD	LFMD	05/06/22 15:03	MS5XW	.25025	.0106	.226827	mg/L	86	70	130	1	20	

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	2		2.021	mg/L	101	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.09	0.09			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.066	0.066			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	.5005		.503	mg/L	100	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	.5005	.159	.655	mg/L	99	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	.5005	.159	.649	mg/L	98	70	130	1	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.052385	mg/L	105	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.00015	0.00015			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00011	0.00011			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05005		.049086	mg/L	98	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	U	.286862	mg/L	115	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	U	.281354	mg/L	112	70	130	2	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	100		100.26	mg/L	100	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.3	0.3			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.22	0.22			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	67.9908		67.35	mg/L	99	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	67.9908	106	172.7	mg/L	98	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	67.9908	106	174.3	mg/L	100	70	130	1	20	

AMECAZ

ACZ Project ID: ***L72736***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Carbon, dissolved organic (DOC) SM5310B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541867													
WG541867LFB	LFB	05/11/22 5:35	WI220510-9	50		48.7	mg/L	97	90	110			
L72707-01DUP	DUP	05/11/22 11:00			U	U	mg/L				0	20	RA
L72735-01AS	AS	05/11/22 11:30	WI220510-9	50	79.6	129.1	mg/L	99	90	110			

Carbon, total organic (TOC) SM5310B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541202													
WG541202ICV	ICV	04/29/22 16:36	WI220428-4	100		99.1	mg/L	99	90	110			
WG541202ICB	ICB	04/29/22 16:43				U	mg/L		-3	3			
WG541202LFB	LFB	04/29/22 17:05	WI220308-1	50		48	mg/L	96	90	110			
L72710-09DUP	DUP	04/29/22 20:17			6.5	6.5	mg/L				0	20	RA
L72735-01AS	AS	04/29/22 20:37	WI220308-1	2500	87.5	2245	mg/L	86	90	110			M2

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	19.96		19.92	mg/L	100	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG541802													
WG541802LFB1	LFB	05/09/22 17:37	WI211112-6	30		30.39	mg/L	101	90	110			
L72710-14DUP	DUP	05/09/22 22:23			U	42.47	mg/L				200	20	RA
L72735-01AS	AS	05/09/22 22:59	WI211112-6	30000	48400	78224.63	mg/L	99	90	110			
WG541802LFB2	LFB	05/10/22 2:16	WI211112-6	30		30.54	mg/L	102	90	110			

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05236	mg/L	105	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0015	0.0015			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.0011	0.0011			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05		.04972	mg/L	99	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	U	.31336	mg/L	125	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	U	.30944	mg/L	124	70	130	1	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541619													
WG541619ICV	ICV	05/05/22 17:03	MS220502-1	.05		.053404	mg/L	107	90	110			
WG541619ICB	ICB	05/05/22 17:05				U	mg/L		-0.00011	0.00011			
WG541619LFB	LFB	05/05/22 17:06	MS220401-2	.05005		.049801	mg/L	100	85	115			
L72625-01AS	AS	05/05/22 17:10	MS220401-2	.05005	.000432	.050206	mg/L	99	70	130			
L72625-01ASD	ASD	05/05/22 17:12	MS220401-2	.05005	.000432	.049034	mg/L	97	70	130	2	20	

AMECAZ

ACZ Project ID: ***L72736***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.053761	mg/L	108	90	110			
WG541484ICB	ICB	05/04/22 13:01				.000052	mg/L		-0.00015	0.00015			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00011	0.00011			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05005		.050589	mg/L	101	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	.0329	.313272	mg/L	112	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	.0329	.307519	mg/L	110	70	130	2	20	

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	4.016		4.235	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.05	0.05			
WG541802													
WG541802LFB1	LFB	05/09/22 17:37	WI211112-6	1.5		1.509	mg/L	101	90	110			
L72710-14DUP	DUP	05/09/22 22:23			U	U	mg/L				0	20	RA
L72735-01AS	AS	05/09/22 22:59	WI211112-6	1500	69.6	1481.101	mg/L	94	90	110			
WG541802LFB2	LFB	05/10/22 2:16	WI211112-6	1.5		1.478	mg/L	99	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541761													
WG541761ICV	ICV	05/09/22 10:33	WC220509-1	2.008		2.03	mg/L	101	90	110			
WG541761ICB	ICB	05/09/22 10:39				U	mg/L		-0.3	0.3			
WG541761LFB1	LFB	05/09/22 10:47	WC220104-2	5.02		5.02	mg/L	100	90	110			
L72682-01AS	AS	05/09/22 10:56	WC220104-2	5.02	.22	4.86	mg/L	92	90	110			
L72682-01ASD	ASD	05/09/22 10:59	WC220104-2	5.02	.22	5	mg/L	95	90	110	3	20	
WG541761LFB2	LFB	05/09/22 13:05	WC220104-2	5.02		5.16	mg/L	103	90	110			

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541689													
WG541689ICV	ICV	05/09/22 15:08	II220427-2	2		2.011	mg/L	101	95	105			
WG541689ICB	ICB	05/09/22 15:14				U	mg/L		-0.18	0.18			
WG541689LFB	LFB	05/09/22 15:26	II220505-2	1.0013		1.02	mg/L	102	85	115			
L72726-04AS	AS	05/09/22 16:28	II220505-2	1.0013	129	123.1	mg/L	-589	85	115			M3
L72726-04ASD	ASD	05/09/22 16:31	II220505-2	1.0013	129	123	mg/L	-599	85	115	0	20	M3

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	2		1.992	mg/L	100	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.18	0.18			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.132	0.132			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	1.0013		1.006	mg/L	100	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	1.0013	.238	1.192	mg/L	95	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	1.0013	.238	1.189	mg/L	95	70	130	0	20	

AMECAZ

ACZ Project ID: ***L72736***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05221	mg/L	104	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0003	0.0003			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00022	0.00022			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.0501		.04918	mg/L	98	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	U	.29454	mg/L	118	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	U	.29127	mg/L	116	70	130	1	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	2		2.0125	mg/L	101	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.024	0.024			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.0176	0.0176			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	.998		.9965	mg/L	100	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	.998	.0352	1.052	mg/L	102	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	.998	.0352	1.059	mg/L	103	70	130	1	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	100		94.82	mg/L	95	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.6	0.6			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.44	0.44			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	49.99922		46.65	mg/L	93	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	49.99922	41.9	88.36	mg/L	93	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	49.99922	41.9	88.43	mg/L	93	70	130	0	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541689													
WG541689ICV	ICV	05/09/22 15:08	II220427-2	2		1.947	mg/L	97	95	105			
WG541689ICB	ICB	05/09/22 15:14				U	mg/L		-0.03	0.03			
WG541689LFB	LFB	05/09/22 15:26	II220505-2	.499		.504	mg/L	101	85	115			
L72726-04AS	AS	05/09/22 16:28	II220505-2	.499	5.31	5.531	mg/L	44	85	115			M3
L72726-04ASD	ASD	05/09/22 16:31	II220505-2	.499	5.31	5.522	mg/L	42	85	115	0	20	M3

Manganese, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	2		1.967	mg/L	98	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.03	0.03			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.022	0.022			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	.499		.492	mg/L	99	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	.499	.769	1.244	mg/L	95	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	.499	.769	1.249	mg/L	96	70	130	0	20	

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ACZ Project ID: ***L72736***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Mercury, total M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541272													
WG541272ICV	ICV	05/03/22 10:41	HG220425-3	.005005		.00514	mg/L	103	95	105			
WG541272ICB	ICB	05/03/22 10:42				U	mg/L		-0.0002	0.0002			
WG541356													
WG541356LRB	LRB	05/03/22 13:09				U	mg/L		-0.00044	0.00044			
WG541356LFB	LFB	05/03/22 13:10	HG220425-6	.002002		.00205	mg/L	102	85	115			
L72735-02LFM	LFM	05/03/22 13:13	HG220425-6	.002002	U	.00209	mg/L	104	85	115			
L72735-02LFMD	LFMD	05/03/22 13:14	HG220425-6	.002002	U	.00215	mg/L	107	85	115	3	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.02		.01995	mg/L	100	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0006	0.0006			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00044	0.00044			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05005		.05001	mg/L	100	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.2505	.826	1.10981	mg/L	113	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.2505	.826	1.1105	mg/L	114	70	130	0	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541624													
WG541624ICV	ICV	05/05/22 22:45	WI220301-7	2.4161		2.245	mg/L	93	90	110			
WG541624ICB	ICB	05/05/22 22:47				U	mg/L		-0.02	0.02			
WG541628													
WG541628LFB	LFB	05/06/22 1:59	WI220401-10	2		1.93	mg/L	97	90	110			
L72682-01DUP	DUP	05/06/22 2:07			U	U	mg/L				0	20	RA
L72682-01AS	AS	05/06/22 2:08	WI220401-10	2	U	1.871	mg/L	94	90	110			

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541464													
WG541464ICV	ICV	05/05/22 11:09	WI220420-2	12.024		11.843	mg/L	98	90	110			
WG541464ICB	ICB	05/05/22 11:10				U	mg/L		-0.05	0.05			
WG541464LFB1	LFB	05/05/22 11:12	WI220420-3	10		10.074	mg/L	101	90	110			
L72730-02AS	AS	05/05/22 11:35	WI220420-3	10	U	10.138	mg/L	101	90	110			
L72730-03DUP	DUP	05/05/22 11:38			U	U	mg/L				0	20	RA
WG541464LFB2	LFB	05/05/22 11:54	WI220420-3	10		10.165	mg/L	102	90	110			

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ACZ Project ID: ***L72736***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541025													
WG541025LCSW1	LCSW	04/26/22 19:02	PCN64057	6		6.1	units	102	5.9	6.1			
WG541025LCSW4	LCSW	04/26/22 22:24	PCN64057	6		6.1	units	102	5.9	6.1			
WG541025LCSW7	LCSW	04/27/22 1:53	PCN64057	6		6.1	units	102	5.9	6.1			
WG541025LCSW10	LCSW	04/27/22 5:36	PCN64057	6		6.1	units	102	5.9	6.1			
L72756-01DUP	DUP	04/27/22 8:18			8.2	8.2	units				0	20	
WG541025LCSW13	LCSW	04/27/22 8:23	PCN64057	6		6.1	units	102	5.9	6.1			

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	20		19.97	mg/L	100	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.6	0.6			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.44	0.44			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	99.96218		97.56	mg/L	98	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	99.96218	3.98	103.1	mg/L	99	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	99.96218	3.98	103.8	mg/L	100	70	130	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541093													
WG541093PBW	PBW	04/27/22 15:00				U	mg/L		-20	20			
WG541093LCSW	LCSW	04/27/22 15:01	PCN63848	1000		992	mg/L	99	80	120			
L72749-01DUP	DUP	04/27/22 15:41			272	272	mg/L				0	10	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05232	mg/L	105	90	110			
WG541484ICB	ICB	05/04/22 13:01				.00015	mg/L		-0.0003	0.0003			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00022	0.00022			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05		.04929	mg/L	99	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.25025	.614	.76164	mg/L	59	70	130			M2
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.25025	.614	.70783	mg/L	37	70	130	7	20	M2

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541881													
WG541881ICV	ICV	05/10/22 12:12	II220408-5	100		100.15	mg/L	100	95	105			
WG541881ICB	ICB	05/10/22 12:18				U	mg/L		-0.6	0.6			
WG541548LRB	LRB	05/10/22 12:30				U	mg/L		-0.44	0.44			
WG541548LFB	LFB	05/10/22 12:33	II220502-2	100.0282		96.8	mg/L	97	85	115			
L72735-03LFM	LFM	05/10/22 12:43	II220502-2	100.0282	376	461.5	mg/L	85	70	130			
L72735-03LFMD	LFMD	05/10/22 12:46	II220502-2	100.0282	376	461.5	mg/L	85	70	130	0	20	

AMECAZ

ACZ Project ID: ***L72736***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	51.15		53.75	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG541802													
WG541802LFB1	LFB	05/09/22 17:37	WI211112-6	30		32.21	mg/L	107	90	110			
L72710-14DUP	DUP	05/09/22 22:23			5090	5096.47	mg/L				0	20	
L72735-01AS	AS	05/09/22 22:59	WI211112-6	30000	46200	82083.5	mg/L	120	90	110			M1
WG541802LFB2	LFB	05/10/22 2:16	WI211112-6	30		31.26	mg/L	104	90	110			

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541484													
WG541484ICV	ICV	05/04/22 12:59	MS220502-1	.05		.05347	mg/L	107	90	110			
WG541484ICB	ICB	05/04/22 13:01				U	mg/L		-0.0003	0.0003			
WG541352LRB	LRB	05/04/22 13:03				U	mg/L		-0.00022	0.00022			
WG541352LFB	LFB	05/04/22 13:05	MS220401-2	.05		.04909	mg/L	98	85	115			
L72735-01LFM	LFM	05/04/22 13:36	MS5XW	.2505	U	.30387	mg/L	121	70	130			
L72735-01LFMD	LFMD	05/04/22 13:38	MS5XW	.2505	U	.30151	mg/L	120	70	130	1	20	

Wood PLC ACZ Project ID: ***L72736***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L72736-01	WG541802	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541484	Selenium, total	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541802	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
L72736-02	WG541867	Carbon, dissolved organic (DOC)	SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541202	Carbon, total organic (TOC)	SM5310B	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541802	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541689	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541628	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541464	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541484	Selenium, total	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541802	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.

Wood PLC ACZ Project ID: ***L72736***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L72736-03	WG541867	Carbon, dissolved organic (DOC)	SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541202	Carbon, total organic (TOC)	SM5310B	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541802	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541689	Iron, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541628	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541464	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541484	Selenium, total	M200.8 ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG541802	Sulfate	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Wood PLC

ACZ Project ID: L72736
Date Received: 04/25/2022 09:46
Received By:
Date Printed: 4/26/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

The 'Relinquished By' field on the COC was not completed. The project manager is contacting the client.

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
4220	3.8	<=6.0	15	No

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Wood PLC

ACZ Project ID:	L72736
Date Received:	04/25/2022 09:46
Received By:	
Date Printed:	4/26/2022

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L72736

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Natalie Christman-Lazarr
Company: Arizona Public Service Company
E-mail: Natalie.ChrismanLazarr@aps.com
Address: 400 N 5th St
Phoenix, AZ 85004
Telephone: 602-316-1324

Copy of Report to:

Name: Maren Henley (maren.henley@woodplc
Company: Wood Plc
E-mail: rebecca.weaver@woodplc.com &
Telephone: mari.wuollet@woodplc.com

Invoice to:

Name: Maren Henley
Company: Wood Plc
E-mail: apinvoice.us@woodplc.com
Address: 4600 E Washington St #600
Phoenix, AZ 85034
Telephone: 602-733-6000

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☒

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: _____ **Sampler's Site Information** **State** AZ **Zip code** 85034 **Time Zone** MST

***Sampler's Signature:** _____

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: AMECAZ-CHOLLA
PO#:
Reporting state for compliance testing: Arizona
Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	BAP-Petroglyph	CR-1R-M-57A	FAP	M-54-M-60	M-63A	MW-72M-W-307R	W-123R	
		GW	3	☐	☐	☐	☒	☐	☐	☐	☐
		GW	3	☐	☐	☐	☒	☐	☐	☐	☐
CH-CCR-SS03-0422	4/22/22:09:05	GW	3	☐	☒	☐	☐	☐	☐	☐	☐
		GW	3	☐	☒	☐	☐	☐	☐	☐	☐
		GW	6	☐	☐	☐	☐	☐	☒	☐	☐
		GW	6	☐	☐	☐	☐	☐	☒	☐	☐
CH-CCR-SS07-0422	04/21/22:13:40	O	6	☒	☐	☐	☐	☐	☐	☐	☐
CH-CCR-SS08-0422	04/21/22:14:56	GW	6	☒	☐	☐	☐	☐	☐	☐	☐
		GW	3	☐	☐	☐	☐	☒	☐	☐	☐
		GW	6	☐	☐	☐	☐	☐	☐	☒	☐

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

O (other matrix) = CCR surface impoundment water

Please ensure copy of report and EDDs are also sent to zachary.carroll@woodplc.com

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L72736 Chain of Custod

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

May 19, 2022

Report to:
Maren Henley
Wood PLC
4600 East Washington St.
Suite 600
Tempe, AZ 85034-1917

Bill to:
Maren Henley
Wood PLC
4600 East Washington St.
Suite 600
Tempe, AZ 85034-1917

cc: Natalie Christman-Lazarr, Zachary Carroll, Rebecca Weaver

Project ID:
ACZ Project ID: L72868

Maren Henley:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 30, 2022. This project has been assigned to ACZ's project number, L72868. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L72868. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after June 18, 2022. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS04-0422

ACZ Sample ID: ***L72868-01***
Date Sampled: *04/25/22 16:10*
Date Received: *04/30/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP								05/11/22 13:12	aeh
Total Hot Plate Digestion	M200.2 ICP-MS								05/09/22 17:05	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	5	<0.002	U		mg/L	0.002	0.01	05/10/22 16:11	mfm
Arsenic, total	M200.8 ICP-MS	5	0.00203	B		mg/L	0.001	0.005	05/10/22 16:11	mfm
Barium, total	M200.8 ICP-MS	5	0.0454			mg/L	0.0025	0.0125	05/10/22 16:11	mfm
Beryllium, total	M200.8 ICP-MS	5	<0.0004	U		mg/L	0.0004	0.00125	05/10/22 16:11	mfm
Boron, total	M200.7 ICP	5	0.454	B		mg/L	0.15	0.5	05/12/22 22:40	keh1
Cadmium, total	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	05/10/22 16:11	mfm
Calcium, total	M200.7 ICP	5	434		*	mg/L	0.5	2.5	05/12/22 22:40	keh1
Chromium, total	M200.8 ICP-MS	5	0.191			mg/L	0.0025	0.01	05/10/22 16:11	mfm
Cobalt, total	M200.8 ICP-MS	5	0.00704			mg/L	0.00025	0.00125	05/10/22 16:11	mfm
Iron, total	M200.7 ICP	5	0.974			mg/L	0.3	0.75	05/12/22 22:40	keh1
Lead, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	05/10/22 16:11	mfm
Lithium, total	M200.7 ICP	5	0.103	B		mg/L	0.04	0.2	05/12/22 22:40	keh1
Manganese, total	M200.7 ICP	5	4.04			mg/L	0.05	0.25	05/12/22 22:40	keh1
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/09/22 10:46	mlh
Molybdenum, total	M200.8 ICP-MS	5	0.0189			mg/L	0.001	0.0025	05/10/22 16:11	mfm
Selenium, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.00125	05/10/22 16:11	mfm
Thallium, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	05/10/22 16:11	mfm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	50	1880		*	mg/L	20	100	05/12/22 21:53	krh
Fluoride	SM4500F-C	1	0.38			mg/L	0.15	0.35	05/09/22 18:15	emk
Fluoride	M300.0 - Ion Chromatography	20	<1	U	*	mg/L	1	5	05/16/22 16:44	krh
pH (lab)	SM4500H+ B									
pH		1	7.9	H		units	0.1	0.1	05/04/22 0:00	emk
pH measured at		1	22.5			C	0.1	0.1	05/04/22 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	2	4900	H	*	mg/L	40	80	05/09/22 11:25	anc
Sulfate	M300.0 - Ion Chromatography	20	1160			mg/L	8	40	05/16/22 16:44	krh

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS09-0422

ACZ Sample ID: ***L72868-02***
Date Sampled: *04/27/22 16:13*
Date Received: *04/30/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP								05/11/22 13:25	aeh
Total Hot Plate Digestion	M200.2 ICP-MS								05/09/22 17:05	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	05/10/22 16:12	mfm
Arsenic, total	M200.8 ICP-MS	1	0.00081	B		mg/L	0.0002	0.001	05/10/22 16:12	mfm
Barium, total	M200.8 ICP-MS	1	0.0256			mg/L	0.0005	0.0025	05/10/22 16:12	mfm
Beryllium, total	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	05/10/22 16:12	mfm
Boron, total	M200.7 ICP	1	0.215			mg/L	0.03	0.1	05/12/22 22:43	keh1
Cadmium, total	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	05/10/22 16:12	mfm
Calcium, total	M200.7 ICP	1	182		*	mg/L	0.1	0.5	05/12/22 22:43	keh1
Chromium, total	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	05/10/22 16:12	mfm
Cobalt, total	M200.8 ICP-MS	1	0.00161			mg/L	0.00005	0.00025	05/10/22 16:12	mfm
Lead, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	05/10/22 16:12	mfm
Lithium, total	M200.7 ICP	1	0.0805			mg/L	0.008	0.04	05/12/22 22:43	keh1
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/09/22 10:49	mlh
Molybdenum, total	M200.8 ICP-MS	1	0.00250			mg/L	0.0002	0.0005	05/10/22 16:12	mfm
Selenium, total	M200.8 ICP-MS	1	0.00212			mg/L	0.0001	0.00025	05/10/22 16:12	mfm
Thallium, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	05/10/22 16:12	mfm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	10	406		*	mg/L	4	20	05/16/22 17:02	krh
Fluoride	SM4500F-C	1	0.25	B		mg/L	0.15	0.35	05/09/22 18:20	emk
Fluoride	M300.0 - Ion Chromatography	10	<0.5	U	*	mg/L	0.5	2.5	05/16/22 17:02	krh
pH (lab)	SM4500H+ B									
pH		1	8.2	H		units	0.1	0.1	05/04/22 0:00	emk
pH measured at		1	22.4			C	0.1	0.1	05/04/22 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	1	1910		*	mg/L	20	40	05/02/22 15:10	anc
Sulfate	M300.0 - Ion Chromatography	10	729			mg/L	4	20	05/16/22 17:02	krh

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Wood PLC
Project ID:
Sample ID: CH-CCR-SS10-0422

ACZ Sample ID: ***L72868-03***
Date Sampled: *04/28/22 12:20*
Date Received: *04/30/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								05/09/22 17:05	mfm
Total Hot Plate Digestion	M200.2 ICP				*				05/11/22 13:39	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	10	<0.004	U		mg/L	0.004	0.02	05/10/22 16:18	mfm
Arsenic, dissolved	M200.8 ICP-MS	10	0.00336	B		mg/L	0.002	0.01	05/10/22 20:44	kja
Arsenic, total	M200.8 ICP-MS	10	0.00415	B		mg/L	0.002	0.01	05/10/22 16:18	mfm
Barium, total	M200.8 ICP-MS	10	0.00979	B		mg/L	0.005	0.025	05/10/22 16:18	mfm
Beryllium, total	M200.8 ICP-MS	10	<0.0008	U		mg/L	0.0008	0.0025	05/10/22 16:18	mfm
Boron, total	M200.7 ICP	10	36.2			mg/L	0.3	1	05/12/22 22:46	keh1
Cadmium, total	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	05/10/22 16:18	mfm
Calcium, total	M200.7 ICP	10	720		*	mg/L	1	5	05/12/22 22:46	keh1
Chromium, total	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	05/10/22 16:18	mfm
Cobalt, dissolved	M200.8 ICP-MS	10	0.00745			mg/L	0.0005	0.0025	05/10/22 20:44	kja
Cobalt, total	M200.8 ICP-MS	10	0.00711			mg/L	0.0005	0.0025	05/10/22 16:18	mfm
Iron, dissolved	M200.7 ICP	10	<0.6	U		mg/L	0.6	1.5	05/12/22 22:51	aeh
Iron, total	M200.7 ICP	10	<0.6	U		mg/L	0.6	1.5	05/12/22 22:46	keh1
Lead, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	05/10/22 16:18	mfm
Lithium, total	M200.7 ICP	10	0.459			mg/L	0.08	0.4	05/12/22 22:46	keh1
Magnesium, total	M200.7 ICP	10	255			mg/L	2	10	05/12/22 22:46	keh1
Manganese, dissolved	M200.7 ICP	10	2.80			mg/L	0.1	0.5	05/12/22 22:51	aeh
Manganese, total	M200.7 ICP	10	2.63			mg/L	0.1	0.5	05/12/22 22:46	keh1
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/09/22 10:50	mlh
Molybdenum, total	M200.8 ICP-MS	10	0.209			mg/L	0.002	0.005	05/10/22 16:18	mfm
Potassium, total	M200.7 ICP	10	28.6			mg/L	2	10	05/12/22 22:46	keh1
Selenium, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.0025	05/10/22 16:18	mfm
Sodium, total	M200.7 ICP	10	3540			mg/L	2	10	05/13/22 17:46	aeh
Thallium, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	05/10/22 16:18	mfm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS10-0422

ACZ Sample ID: ***L72868-03***
Date Sampled: *04/28/22 12:20*
Date Received: *04/30/22*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	51.0			mg/L	2	20	05/04/22 0:00	emk
Carbonate as CaCO3		1	<2	U		mg/L	2	20	05/04/22 0:00	emk
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	05/04/22 0:00	emk
Total Alkalinity		1	51.0			mg/L	2	20	05/04/22 0:00	emk
Carbon, dissolved organic (DOC)	SM5310B	1	2.0	B	*	mg/L	1	5	05/11/22 12:48	krh
Chloride	M300.0 - Ion Chromatography	100	5460		*	mg/L	40	200	05/12/22 22:29	krh
Fluoride	SM4500F-C	1	5.28			mg/L	0.15	0.35	05/09/22 18:25	emk
Fluoride	M300.0 - Ion Chromatography	100	6.00	B	*	mg/L	5	25	05/12/22 22:29	krh
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	<0.02	U		mg/L	0.02	0.1	05/12/22 3:14	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	1.22			mg/L	0.05	0.2	05/09/22 12:30	mjj1
pH (lab)	SM4500H+ B									
pH		1	7.6	H		units	0.1	0.1	05/04/22 0:00	emk
pH measured at		1	22.2			C	0.1	0.1	05/04/22 0:00	emk
Residue, Filterable (TDS) @180C	SM2540C	5	14000			mg/L	100	200	05/05/22 14:30	anc
Sulfate	M300.0 - Ion Chromatography	100	3700			mg/L	40	200	05/12/22 22:29	krh

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Reference

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

AMECAZ

ACZ Project ID: ***L72868***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541436													
WG541436PBW1	PBW	05/03/22 16:24				4.5	mg/L		-20	20			
WG541436LCSW3	LCSW	05/03/22 16:41	WC220430-1	820.0001		763.4	mg/L	93	90	110			
WG541436LCSW6	LCSW	05/03/22 19:50	WC220430-1	820.0001		788.4	mg/L	96	90	110			
WG541436PBW2	PBW	05/03/22 19:56				3.7	mg/L		-20	20			
WG541436LCSW9	LCSW	05/03/22 23:58	WC220430-1	820.0001		765.8	mg/L	93	90	110			
WG541436PBW3	PBW	05/04/22 0:03				5.3	mg/L		-20	20			
WG541436LCSW12	LCSW	05/04/22 3:25	WC220430-1	820.0001		789.5	mg/L	96	90	110			
WG541436PBW4	PBW	05/04/22 3:31				5.1	mg/L		-20	20			
L72875-01DUP	DUP	05/04/22 4:05			177	178.3	mg/L				1	20	
WG541436LCSW15	LCSW	05/04/22 6:27	WC220430-1	820.0001		800.6	mg/L	98	90	110			

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.0201		.01984	mg/L	99	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.0012	0.0012			
WG541818LRB	LRB	05/10/22 15:39				U	mg/L		-0.00088	0.00088			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.01		.00972	mg/L	97	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.01	U	.0101	mg/L	101	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.01	U	.01017	mg/L	102	70	130	1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541898													
WG541898ICV	ICV	05/10/22 20:01	MS220502-1	.05		.05193	mg/L	104	90	110			
WG541898ICB	ICB	05/10/22 20:03				U	mg/L		-0.00044	0.00044			
WG541898LFB	LFB	05/10/22 20:04	MS220506-2	.05005		.05153	mg/L	103	85	115			
L72882-03AS	AS	05/10/22 20:51	MS220506-2	.05005	.0328	.08586	mg/L	106	70	130			
L72882-03ASD	ASD	05/10/22 20:53	MS220506-2	.05005	.0328	.08671	mg/L	108	70	130	1	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.05		.04891	mg/L	98	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.0006	0.0006			
WG541818LRB	LRB	05/10/22 15:39				U	mg/L		-0.00044	0.00044			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.05005		.0453	mg/L	91	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.05005	.00081	.04386	mg/L	86	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.05005	.00081	.04442	mg/L	87	70	130	1	20	

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ACZ Project ID: ***L72868***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Barium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.05		.051	mg/L	102	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.0015	0.0015			
WG541818LRB	LRB	05/10/22 15:39				U	mg/L		-0.0011	0.0011			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.049985		.04636	mg/L	93	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.049985	.0256	.07152	mg/L	92	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.049985	.0256	.07241	mg/L	94	70	130	1	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.05		.050758	mg/L	102	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.00024	0.00024			
WG541818LRB	LRB	05/10/22 15:39				U	mg/L		-0.000176	0.000176			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.05005		.046771	mg/L	93	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.05005	U	.040391	mg/L	81	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.05005	U	.040447	mg/L	81	70	130	0	20	E6

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542168													
WG542168ICV	ICV	05/12/22 21:42	II220408-5	2		1.975	mg/L	99	95	105			
WG542168ICB	ICB	05/12/22 21:48				U	mg/L		-0.09	0.09			
WG541961LRB	LRB	05/12/22 22:00				U	mg/L		-0.066	0.066			
WG541961LFB	LFB	05/12/22 22:04	II220505-2	.5005		.497	mg/L	99	85	115			
L72867-01LFM	LFM	05/12/22 22:28	II220505-2	.5005	U	.507	mg/L	101	70	130			
L72867-01LFMD	LFMD	05/12/22 22:37	II220505-2	.5005	U	.512	mg/L	102	70	130	1	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.05		.05043	mg/L	101	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.00015	0.00015			
WG541818LRB	LRB	05/10/22 15:39				U	mg/L		-0.00011	0.00011			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.05005		.04557	mg/L	91	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.05005	U	.04412	mg/L	88	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.05005	U	.044722	mg/L	89	70	130	1	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542168													
WG542168ICV	ICV	05/12/22 21:42	II220408-5	100		99.55	mg/L	100	95	105			
WG542168ICB	ICB	05/12/22 21:48				U	mg/L		-0.3	0.3			
WG541961LRB	LRB	05/12/22 22:00				U	mg/L		-0.22	0.22			
WG541961LFB	LFB	05/12/22 22:04	II220505-2	67.9908		66.77	mg/L	98	85	115			
L72867-01LFM	LFM	05/12/22 22:28	II220505-2	67.9908	58.4	125.8	mg/L	99	70	130			
L72867-01LFMD	LFMD	05/12/22 22:37	II220505-2	67.9908	58.4	125.2	mg/L	98	70	130	0	20	

AMECAZ

ACZ Project ID: ***L72868***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Carbon, dissolved organic (DOC) SM5310B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541867													
WG541867LFB	LFB	05/11/22 5:35	WI220510-9	50		48.7	mg/L	97	90	110			
L72707-01DUP	DUP	05/11/22 11:00			U	U	mg/L				0	20	RA
L72735-01AS	AS	05/11/22 11:30	WI220510-9	50	79.6	129.1	mg/L	99	90	110			

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	19.96		19.92	mg/L	100	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG542144													
WG542144LFB	LFB	05/12/22 20:23	WI211112-6	30		29.83	mg/L	99	90	110			
L72784-01AS	AS	05/12/22 21:35	WI211112-6	150	97	246.1	mg/L	99	90	110			
L72752-01DUP	DUP	05/16/22 16:26			9.06	9.06	mg/L				0	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.05		.05028	mg/L	101	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.0015	0.0015			
WG541818LRB	LRB	05/10/22 15:39				.0006	mg/L		-0.0011	0.0011			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.05		.04526	mg/L	91	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.05	U	.04315	mg/L	86	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.05	U	.04357	mg/L	87	70	130	1	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541898													
WG541898ICV	ICV	05/10/22 20:01	MS220502-1	.05		.052564	mg/L	105	90	110			
WG541898ICB	ICB	05/10/22 20:03				U	mg/L		-0.00011	0.00011			
WG541898LFB	LFB	05/10/22 20:04	MS220506-2	.05005		.051057	mg/L	102	85	115			
L72882-03AS	AS	05/10/22 20:51	MS220506-2	.05005	U	.050463	mg/L	101	70	130			
L72882-03ASD	ASD	05/10/22 20:53	MS220506-2	.05005	U	.050807	mg/L	102	70	130	1	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.05		.051315	mg/L	103	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.00015	0.00015			
WG541818LRB	LRB	05/10/22 15:39				U	mg/L		-0.00011	0.00011			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.05005		.047393	mg/L	95	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.05005	.00161	.044842	mg/L	86	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.05005	.00161	.045859	mg/L	88	70	130	2	20	

AMECAZ

ACZ Project ID: ***L72868***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	4.016		4.235	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.05	0.05			
WG542144													
WG542144LFB	LFB	05/12/22 20:23	WI211112-6	1.5		1.503	mg/L	100	90	110			
L72784-01AS	AS	05/12/22 21:35	WI211112-6	7.5	U	7.334	mg/L	98	90	110			
L72752-01DUP	DUP	05/16/22 16:26			.408	.41	mg/L				0	20	RA

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541761													
WG541761ICV	ICV	05/09/22 10:33	WC220509-1	2.008		2.03	mg/L	101	90	110			
WG541761ICB	ICB	05/09/22 10:39				U	mg/L		-0.3	0.3			
WG541805													
WG541805ICV	ICV	05/09/22 15:36	WC220509-1	2.008		2.09	mg/L	104	90	110			
WG541805ICB	ICB	05/09/22 15:44				U	mg/L		-0.3	0.3			
WG541805LFB1	LFB	05/09/22 15:51	WC220104-2	5.02		5.09	mg/L	101	90	110			
L72885-05AS	AS	05/09/22 18:33	WC220104-2	5.02	U	5.07	mg/L	101	90	110			
L72885-05ASD	ASD	05/09/22 18:37	WC220104-2	5.02	U	5.02	mg/L	100	90	110	1	20	
WG541805LFB2	LFB	05/09/22 18:40	WC220104-2	5.02		5.05	mg/L	101	90	110			

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542059													
WG542059ICV	ICV	05/12/22 21:14	II220427-2	2		2.032	mg/L	102	95	105			
WG542059ICB	ICB	05/12/22 21:20				U	mg/L		-0.18	0.18			
WG542059LFB	LFB	05/12/22 21:33	II220505-2	1.0013		1.063	mg/L	106	85	115			
L72820-04AS	AS	05/12/22 22:25	II220505-2	1.0013	U	1.052	mg/L	105	85	115			
L72820-04ASD	ASD	05/12/22 22:28	II220505-2	1.0013	U	1.054	mg/L	105	85	115	0	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542168													
WG542168ICV	ICV	05/12/22 21:42	II220408-5	2		1.999	mg/L	100	95	105			
WG542168ICB	ICB	05/12/22 21:48				U	mg/L		-0.18	0.18			
WG541961LRB	LRB	05/12/22 22:00				U	mg/L		-0.132	0.132			
WG541961LFB	LFB	05/12/22 22:04	II220505-2	1.0013		.981	mg/L	98	85	115			
L72867-01LFM	LFM	05/12/22 22:28	II220505-2	1.0013	U	.999	mg/L	100	70	130			
L72867-01LFMD	LFMD	05/12/22 22:37	II220505-2	1.0013	U	1.005	mg/L	100	70	130	1	20	

AMECAZ

ACZ Project ID: ***L72868***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.05		.051	mg/L	102	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.0003	0.0003			
WG541818LRB	LRB	05/10/22 15:39				U	mg/L		-0.00022	0.00022			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.0501		.04624	mg/L	92	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.0501	U	.04802	mg/L	96	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.0501	U	.04823	mg/L	96	70	130	0	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542168													
WG542168ICV	ICV	05/12/22 21:42	II220408-5	2		1.9832	mg/L	99	95	105			
WG542168ICB	ICB	05/12/22 21:48				U	mg/L		-0.024	0.024			
WG541961LRB	LRB	05/12/22 22:00				U	mg/L		-0.0176	0.0176			
WG541961LFB	LFB	05/12/22 22:04	II220505-2	.998		1.023	mg/L	103	85	115			
L72867-01LFM	LFM	05/12/22 22:28	II220505-2	.998	U	1.031	mg/L	103	70	130			
L72867-01LFMD	LFMD	05/12/22 22:37	II220505-2	.998	U	1.041	mg/L	104	70	130	1	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542168													
WG542168ICV	ICV	05/12/22 21:42	II220408-5	100		94.86	mg/L	95	95	105			
WG542168ICB	ICB	05/12/22 21:48				U	mg/L		-0.6	0.6			
WG541961LRB	LRB	05/12/22 22:00				U	mg/L		-0.44	0.44			
WG541961LFB	LFB	05/12/22 22:04	II220505-2	49.99922		46.85	mg/L	94	85	115			
L72867-01LFM	LFM	05/12/22 22:28	II220505-2	49.99922	22.7	69.97	mg/L	95	70	130			
L72867-01LFMD	LFMD	05/12/22 22:37	II220505-2	49.99922	22.7	70.06	mg/L	95	70	130	0	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542059													
WG542059ICV	ICV	05/12/22 21:14	II220427-2	2		1.949	mg/L	97	95	105			
WG542059ICB	ICB	05/12/22 21:20				U	mg/L		-0.03	0.03			
WG542059LFB	LFB	05/12/22 21:33	II220505-2	.499		.523	mg/L	105	85	115			
L72820-04AS	AS	05/12/22 22:25	II220505-2	.499	U	.519	mg/L	104	85	115			
L72820-04ASD	ASD	05/12/22 22:28	II220505-2	.499	U	.521	mg/L	104	85	115	0	20	

Manganese, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542168													
WG542168ICV	ICV	05/12/22 21:42	II220408-5	2		1.937	mg/L	97	95	105			
WG542168ICB	ICB	05/12/22 21:48				U	mg/L		-0.03	0.03			
WG541961LRB	LRB	05/12/22 22:00				U	mg/L		-0.022	0.022			
WG541961LFB	LFB	05/12/22 22:04	II220505-2	.499		.49	mg/L	98	85	115			
L72867-01LFM	LFM	05/12/22 22:28	II220505-2	.499	.159	.647	mg/L	98	70	130			
L72867-01LFMD	LFMD	05/12/22 22:37	II220505-2	.499	.159	.648	mg/L	98	70	130	0	20	

AMECAZ

ACZ Project ID: ***L72868***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Mercury, total M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541721													
WG541721ICV	ICV	05/09/22 10:42	HG220508-3	.005005		.00506	mg/L	101	95	105			
WG541721ICB	ICB	05/09/22 10:43				U	mg/L		-0.0002	0.0002			
WG541721LRB	LRB	05/09/22 10:45				U	mg/L		-0.00044	0.00044			
WG541721LFB	LFB	05/09/22 10:45	HG220508-6	.002002		.00174	mg/L	87	85	115			
L72868-01LFM	LFM	05/09/22 10:47	HG220508-6	.002002	U	.00178	mg/L	89	85	115			
L72868-01LFMD	LFMD	05/09/22 10:48	HG220508-6	.002002	U	.0017	mg/L	85	85	115	5	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.02		.01988	mg/L	99	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.0006	0.0006			
WG541818LRB	LRB	05/10/22 15:39				U	mg/L		-0.00044	0.00044			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.05005		.04565	mg/L	91	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.05005	.0025	.0518	mg/L	99	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.05005	.0025	.05219	mg/L	99	70	130	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542084													
WG542084ICV	ICV	05/12/22 0:07	WI220301-7	2.4161		2.303	mg/L	95	90	110			
WG542084ICB	ICB	05/12/22 0:08				U	mg/L		-0.02	0.02			
WG542087													
WG542087LFB	LFB	05/12/22 2:47	WI220401-10	2		1.988	mg/L	99	90	110			
L65078-58AS	AS	05/12/22 3:09	WI220401-10	2	U	2.002	mg/L	100	90	110			
L72866-01DUP	DUP	05/12/22 3:12			.302	.3	mg/L				1	20	

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541757													
WG541757ICV	ICV	05/09/22 12:05	WI220420-2	12.024		11.944	mg/L	99	90	110			
WG541757ICB	ICB	05/09/22 12:06				U	mg/L		-0.05	0.05			
WG541757LFB	LFB	05/09/22 12:08	WI220420-3	10		9.867	mg/L	99	90	110			
L72868-03AS	AS	05/09/22 12:32	WI220420-3	10	1.22	10.399	mg/L	92	90	110			
L72871-01DUP	DUP	05/09/22 12:34			7.33	7.547	mg/L				3	20	

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541436													
WG541436LCSW1	LCSW	05/03/22 16:28	PCN64057	6		6.1	units	102	5.9	6.1			
WG541436LCSW4	LCSW	05/03/22 19:35	PCN64057	6		6.1	units	102	5.9	6.1			
WG541436LCSW7	LCSW	05/03/22 23:44	PCN64057	6		6.1	units	102	5.9	6.1			
WG541436LCSW10	LCSW	05/04/22 3:10	PCN64057	6		6.1	units	102	5.9	6.1			
L72875-01DUP	DUP	05/04/22 4:05			8.5	8.4	units				1	20	
WG541436LCSW13	LCSW	05/04/22 6:12	PCN64057	6		6.1	units	102	5.9	6.1			

AMECAZ

ACZ Project ID: ***L72868***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542168													
WG542168ICV	ICV	05/12/22 21:42	II220408-5	20		19.89	mg/L	99	95	105			
WG542168ICB	ICB	05/12/22 21:48				U	mg/L		-0.6	0.6			
WG541961LRB	LRB	05/12/22 22:00				U	mg/L		-0.44	0.44			
WG541961LFB	LFB	05/12/22 22:04	II220505-2	99.96218		96.58	mg/L	97	85	115			
L72867-01LFM	LFM	05/12/22 22:28	II220505-2	99.96218	1.02	99.1	mg/L	98	70	130			
L72867-01LFMD	LFMD	05/12/22 22:37	II220505-2	99.96218	1.02	98.98	mg/L	98	70	130	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541323													
WG541323PBW	PBW	05/02/22 14:16				U	mg/L		-20	20			
WG541323LCSW	LCSW	05/02/22 14:18	PCN63846	1000		978	mg/L	98	80	120			
L72810-01DUP	DUP	05/02/22 14:47			236	230	mg/L				3	10	
WG541601													
WG541601PBW	PBW	05/05/22 14:25				U	mg/L		-20	20			
WG541601LCSW	LCSW	05/05/22 14:27	PCN63845	1000		976	mg/L	98	80	120			
L72908-06DUP	DUP	05/05/22 14:48			4660	4656	mg/L				0	10	
WG541771													
WG541771PBW	PBW	05/09/22 11:15				U	mg/L		-20	20			
WG541771LCSW	LCSW	05/09/22 11:17	PCN63845	1000		982	mg/L	98	80	120			
L72966-01DUP	DUP	05/09/22 11:46			1650	1664	mg/L				1	10	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.05		.05	mg/L	100	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.0003	0.0003			
WG541818LRB	LRB	05/10/22 15:39				U	mg/L		-0.00022	0.00022			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.05		.04589	mg/L	92	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.05	.00212	.04697	mg/L	90	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.05	.00212	.04924	mg/L	94	70	130	5	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542217													
WG542217ICV	ICV	05/13/22 17:11	II220408-5	100		99.65	mg/L	100	95	105			
WG542217ICB	ICB	05/13/22 17:16				U	mg/L		-0.6	0.6			
WG541961LRB	LRB	05/13/22 17:29				U	mg/L		-0.44	0.44			
WG541961LFB	LFB	05/13/22 17:32	II220505-2	100.0282		98.56	mg/L	99	85	115			
L72867-01LFM	LFM	05/13/22 17:41	II220505-2	100.0282	3.86	104.3	mg/L	100	70	130			
L72867-01LFMD	LFMD	05/13/22 17:43	II220505-2	100.0282	3.86	103.9	mg/L	100	70	130	0	20	

AMECAZ

ACZ Project ID: ***L72868***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	51.15		53.75	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG542144													
WG542144LFB	LFB	05/12/22 20:23	WI211112-6	30		31.77	mg/L	106	90	110			
L72784-01AS	AS	05/12/22 21:35	WI211112-6	150	34.3	189.99	mg/L	104	90	110			
L72752-01DUP	DUP	05/16/22 16:26			31.2	31.17	mg/L				0	20	

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541916													
WG541916ICV	ICV	05/10/22 15:35	MS220502-1	.05		.05211	mg/L	104	90	110			
WG541916ICB	ICB	05/10/22 15:37				U	mg/L		-0.0003	0.0003			
WG541818LRB	LRB	05/10/22 15:39				U	mg/L		-0.00022	0.00022			
WG541818LFB	LFB	05/10/22 15:41	MS220506-2	.05		.04636	mg/L	93	85	115			
L72868-02LFM	LFM	05/10/22 16:14	MS220506-2	.05	U	.05001	mg/L	100	70	130			
L72868-02LFMD	LFMD	05/10/22 16:16	MS220506-2	.05	U	.05027	mg/L	101	70	130	1	20	

Wood PLC ACZ Project ID: ***L72868***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L72868-01	WG542168	Calcium, total	M200.7 ICP	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG542144	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541771	Residue, Filterable (TDS) @180C	SM2540C	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			SM2540C	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
L72868-02	WG542168	Calcium, total	M200.7 ICP	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG542144	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541323	Residue, Filterable (TDS) @180C	SM2540C	RO	The duplicate originally assigned to this sample was not used for precision assessment because residue density did not meet method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met.
L72868-03	WG542168	Calcium, total	M200.7 ICP	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG541867	Carbon, dissolved organic (DOC)	SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG542144	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG541961	Total Hot Plate Digestion	M200.2 ICP	DH	Sample required dilution due to high TDS and/or EC value.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Wood PLC

ACZ Project ID: L72868
Date Received: 04/30/2022 10:07
Received By:
Date Printed: 5/3/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
4439	4.5	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Wood PLC

ACZ Project ID:	L72868
Date Received:	04/30/2022 10:07
Received By:	
Date Printed:	5/3/2022

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L72868

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Natalie Christman-Lazarr
Company: Arizona Public Service Company
E-mail: Natalie.ChrismanLazarr@aps.com
Address: 400 N 5th St
Phoenix, AZ 85004
Telephone: 602-316-1324

Copy of Report to:

Name: Maren Henley (maren.henley@woodpl
Company: Wood Plc
E-mail: rebecca.weaver@woodplc.com &
Telephone: mari.wuollet@woodplc.com

Invoice to:

Name: Maren Henley
Company: Wood Plc
E-mail: apinvoice.us@woodplc.com
Address: 4600 E Washington St #600
Phoenix, AZ 85034
Telephone: 602-733-6000

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☒

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: _____ **Sampler's Site Information** **State** AZ **Zip code** 85034 **Time Zone** MST

***Sampler's Signature:** _____

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: AMECAZ-CHOLLA
PO#:
Reporting state for compliance testing: Arizona
Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	BAP-Petroglyph	CR-1R-M-57A	FAP	M-54-M-60	M-63A	MW-72M-W-307R	W-123R	
				☐	☐	☐	☒	☐	☐	☐	☐
				☐	☐	☐	☒	☐	☐	☐	☐
				☐	☒	☐	☐	☐	☐	☐	☐
CH-CCR-SS04-0422	4/25/22 16:10	GW	3	☐	☒	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☒	☐	☐
				☐	☐	☐	☐	☐	☒	☐	☐
				☒	☐	☐	☐	☐	☐	☐	☐
				☒	☐	☐	☐	☐	☐	☐	☐
CH-CCR-SS09-0422	04/27/22:16:13	GW	3	☐	☐	☐	☐	☒	☐	☐	☐
CH-CCR-SS10-0422	4/28/2022:12:20	GW	6	☐	☐	☐	☐	☐	☐	☒	☐

SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

O (other matrix) = CCR surface impoundment water

Please ensure copy of report and EDDs are also sent to zachary.carroll@woodplc.com

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Isaac Torres	04/29/22 12:04	[illegible]	4/30/22 1007

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L72868 Chain of Custod

L72868-2205190850

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

June 03, 2022

Report to:
Natalie Christman-Lazarr
Arizona Public Service Company
400 N. 5th St

Phoenix, AZ 85004

Bill to:
Maren Henley
Wood PLC
4600 East Washington St.
Suite 600
Tempe, AZ 85034-1917

cc: Rebecca Weaver, Maren Henley, Zachary Carroll

Project ID:
ACZ Project ID: L73247

Natalie Christman-Lazarr:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on May 14, 2022. This project has been assigned to ACZ's project number, L73247. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L73247. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after July 03, 2022. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS01-0522

ACZ Sample ID: ***L73247-01***
Date Sampled: *05/13/22 09:13*
Date Received: *05/14/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP								05/25/22 13:27	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Boron, total	M200.7 ICP	2	0.482			mg/L	0.06	0.2	05/27/22 18:05	wtc
Calcium, total	M200.7 ICP	2	96.5			mg/L	0.2	1	05/27/22 18:05	wtc

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	20	1480			mg/L	8	40	05/20/22 20:49	krh
Fluoride	SM4500F-C	1	1.50			mg/L	0.15	0.35	05/26/22 17:58	emk
pH (lab)	SM4500H+ B									
pH		1	8.2	H		units	0.1	0.1	05/21/22 0:00	eep
pH measured at		1	22.1			C	0.1	0.1	05/21/22 0:00	eep
Residue, Filterable (TDS) @180C	SM2540C	1	3100			mg/L	20	40	05/18/22 18:46	jck
Sulfate	M300.0 - Ion Chromatography	20	353			mg/L	8	40	05/20/22 20:49	krh

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS02-0522

ACZ Sample ID: ***L73247-02***
Date Sampled: *05/13/22 08:13*
Date Received: *05/14/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP								05/25/22 13:41	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Boron, total	M200.7 ICP	2	0.483			mg/L	0.06	0.2	05/27/22 18:08	wtc
Calcium, total	M200.7 ICP	2	84.8			mg/L	0.2	1	05/27/22 18:08	wtc

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	20	1360			mg/L	8	40	05/20/22 21:07	krh
Fluoride	SM4500F-C	1	1.57			mg/L	0.15	0.35	05/26/22 18:01	emk
pH (lab)	SM4500H+ B									
pH		1	8.2	H		units	0.1	0.1	05/21/22 0:00	eep
pH measured at		1	21.9			C	0.1	0.1	05/21/22 0:00	eep
Residue, Filterable (TDS) @180C	SM2540C	1	2880			mg/L	20	40	05/18/22 18:49	jck
Sulfate	M300.0 - Ion Chromatography	20	350			mg/L	8	40	05/20/22 21:07	krh

Arizona license number: AZ0102

Wood PLC
Project ID:
Sample ID: CH-CCR-SS06-0522

ACZ Sample ID: ***L73247-03***
Date Sampled: *05/12/22 09:35*
Date Received: *05/14/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP								05/25/22 13:54	aeh
Total Hot Plate Digestion	M200.2 ICP-MS								05/23/22 16:00	scp

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	5	<0.002	U		mg/L	0.002	0.01	05/24/22 20:50	mfm
Arsenic, dissolved	M200.8 ICP-MS	5	<0.001	U		mg/L	0.001	0.005	05/24/22 20:19	kja
Arsenic, total	M200.8 ICP-MS	5	<0.001	U		mg/L	0.001	0.005	05/24/22 20:50	mfm
Barium, total	M200.8 ICP-MS	5	0.0110	B		mg/L	0.0025	0.0125	05/24/22 20:50	mfm
Beryllium, total	M200.8 ICP-MS	5	<0.0004	U		mg/L	0.0004	0.00125	05/24/22 20:50	mfm
Boron, total	M200.7 ICP	5	2.68			mg/L	0.15	0.5	05/27/22 18:11	wtc
Cadmium, total	M200.8 ICP-MS	5	0.000408	B		mg/L	0.00025	0.00125	05/24/22 20:50	mfm
Calcium, total	M200.7 ICP	5	704			mg/L	0.5	2.5	05/27/22 18:11	wtc
Chromium, total	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	05/24/22 20:50	mfm
Cobalt, dissolved	M200.8 ICP-MS	5	0.0657			mg/L	0.00025	0.00125	05/24/22 20:19	kja
Cobalt, total	M200.8 ICP-MS	5	0.0596			mg/L	0.00025	0.00125	05/24/22 20:50	mfm
Iron, dissolved	M200.7 ICP	5	<0.3	U		mg/L	0.3	0.75	05/26/22 21:21	keh1
Iron, total	M200.7 ICP	5	0.666	B	*	mg/L	0.3	0.75	06/01/22 15:04	wtc
Lead, total	M200.8 ICP-MS	5	0.00061	B		mg/L	0.0005	0.0025	05/24/22 20:50	mfm
Lithium, total	M200.7 ICP	5	0.234			mg/L	0.04	0.2	05/27/22 18:11	wtc
Magnesium, total	M200.7 ICP	5	156			mg/L	1	5	06/01/22 15:04	wtc
Manganese, dissolved	M200.7 ICP	5	2.44			mg/L	0.05	0.25	05/26/22 21:21	keh1
Manganese, total	M200.7 ICP	5	2.38			mg/L	0.05	0.25	05/27/22 18:11	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/19/22 15:08	mlh
Molybdenum, total	M200.8 ICP-MS	5	0.0240			mg/L	0.001	0.0025	05/24/22 20:50	mfm
Potassium, total	M200.7 ICP	5	6.73			mg/L	1	5	05/27/22 18:11	wtc
Selenium, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.00125	05/27/22 20:40	kja
Sodium, total	M200.7 ICP	5	1840		*	mg/L	1	5	05/27/22 18:11	wtc
Thallium, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	05/24/22 20:50	mfm

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: CH-CCR-SS06-0522

ACZ Sample ID: ***L73247-03***
Date Sampled: *05/12/22 09:35*
Date Received: *05/14/22*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	164			mg/L	2	20	05/21/22 0:00	eep
Carbonate as CaCO3		1	<2	U		mg/L	2	20	05/21/22 0:00	eep
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	05/21/22 0:00	eep
Total Alkalinity		1	164			mg/L	2	20	05/21/22 0:00	eep
Carbon, dissolved organic (DOC)	SM5310B	1	1.1	B	*	mg/L	1	5	05/20/22 16:56	krh
Chloride	M300.0 - Ion Chromatography	50	2730		*	mg/L	20	100	05/25/22 21:19	mad
Fluoride	SM4500F-C	1	0.32	B		mg/L	0.15	0.35	05/26/22 18:05	emk
Fluoride	M300.0 - Ion Chromatography	1	<0.05	U	*	mg/L	0.05	0.25	05/20/22 1:23	krh
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	<0.02	U		mg/L	0.02	0.1	05/25/22 4:01	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	<0.05	U	*	mg/L	0.05	0.2	05/19/22 12:03	mjj1
pH (lab)	SM4500H+ B									
pH		1	8.0	H		units	0.1	0.1	05/21/22 0:00	eep
pH measured at		1	21.8			C	0.1	0.1	05/21/22 0:00	eep
Residue, Filterable (TDS) @180C	SM2540C	5	8620	H	*	mg/L	100	200	05/23/22 13:41	anc
Sulfate	M300.0 - Ion Chromatography	50	2900			mg/L	20	100	05/25/22 21:19	mad

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

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Inorganic Reference

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

AMECAZ

ACZ Project ID: ***L73247***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542697													
WG542697PBW1	PBW	05/20/22 18:39				10.7	mg/L		-20	20			
WG542697LCSW3	LCSW	05/20/22 18:58	WC220513-7	820.0001		794.8	mg/L	97	90	110			
WG542697LCSW6	LCSW	05/20/22 21:23	WC220513-7	820.0001		796.9	mg/L	97	90	110			
WG542697PBW2	PBW	05/20/22 21:29				6.7	mg/L		-20	20			
WG542697LCSW9	LCSW	05/21/22 0:04	WC220513-7	820.0001		800.5	mg/L	98	90	110			
WG542697PBW3	PBW	05/21/22 0:10				4.8	mg/L		-20	20			
WG542697LCSW12	LCSW	05/21/22 3:34	WC220513-7	820.0001		781	mg/L	95	90	110			
WG542697PBW4	PBW	05/21/22 3:40				6.7	mg/L		-20	20			
L73247-03DUP	DUP	05/21/22 6:19			164	145.8	mg/L				12	20	
WG542697LCSW15	LCSW	05/21/22 6:36	WC220513-7	820.0001		791.8	mg/L	97	90	110			

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542888													
WG542888ICV	ICV	05/24/22 19:52	MS220502-1	.0201		.01996	mg/L	99	90	110			
WG542888ICB	ICB	05/24/22 19:54				.00045	mg/L		-0.0012	0.0012			
WG542753LRB	LRB	05/24/22 19:56				U	mg/L		-0.00088	0.00088			
WG542753LFB	LFB	05/24/22 19:58	MS220506-2	.01		.0103	mg/L	103	85	115			
L73222-02LFM	LFM	05/24/22 20:27	MS220506-2	.01	U	.01086	mg/L	109	70	130			
L73222-02LFMD	LFMD	05/24/22 20:29	MS220506-2	.01	U	.01082	mg/L	108	70	130	0	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542860													
WG542860ICV	ICV	05/24/22 19:24	MS220502-1	.05		.05139	mg/L	103	90	110			
WG542860ICB	ICB	05/24/22 19:26				U	mg/L		-0.00044	0.00044			
WG542860LFB	LFB	05/24/22 19:28	MS220506-2	.05005		.0467	mg/L	93	85	115			
L73213-03AS	AS	05/24/22 20:11	MS220506-2	.05005	.00069	.0498	mg/L	98	70	130			
L73213-03ASD	ASD	05/24/22 20:13	MS220506-2	.05005	.00069	.05206	mg/L	103	70	130	4	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542888													
WG542888ICV	ICV	05/24/22 19:52	MS220502-1	.05		.05045	mg/L	101	90	110			
WG542888ICB	ICB	05/24/22 19:54				U	mg/L		-0.0006	0.0006			
WG542753LRB	LRB	05/24/22 19:56				U	mg/L		-0.00044	0.00044			
WG542753LFB	LFB	05/24/22 19:58	MS220506-2	.05005		.04707	mg/L	94	85	115			
L73222-02LFM	LFM	05/24/22 20:27	MS220506-2	.05005	.00365	.05163	mg/L	96	70	130			
L73222-02LFMD	LFMD	05/24/22 20:29	MS220506-2	.05005	.00365	.05006	mg/L	93	70	130	3	20	

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ACZ Project ID: ***L73247***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Barium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542888													
WG542888ICV	ICV	05/24/22 19:52	MS220502-1	.05		.05001	mg/L	100	90	110			
WG542888ICB	ICB	05/24/22 19:54				U	mg/L		-0.0015	0.0015			
WG542753LRB	LRB	05/24/22 19:56				U	mg/L		-0.0011	0.0011			
WG542753LFB	LFB	05/24/22 19:58	MS220506-2	.049985		.04566	mg/L	91	85	115			
L73222-02LFM	LFM	05/24/22 20:27	MS220506-2	.049985	.0516	.09993	mg/L	97	70	130			
L73222-02LFMD	LFMD	05/24/22 20:29	MS220506-2	.049985	.0516	.09958	mg/L	96	70	130	0	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542888													
WG542888ICV	ICV	05/24/22 19:52	MS220502-1	.05		.051462	mg/L	103	90	110			
WG542888ICB	ICB	05/24/22 19:54				U	mg/L		-0.00024	0.00024			
WG542753LRB	LRB	05/24/22 19:56				U	mg/L		-0.000176	0.000176			
WG542753LFB	LFB	05/24/22 19:58	MS220506-2	.05005		.047426	mg/L	95	85	115			
L73222-02LFM	LFM	05/24/22 20:27	MS220506-2	.05005	U	.040243	mg/L	80	70	130			
L73222-02LFMD	LFMD	05/24/22 20:29	MS220506-2	.05005	U	.039788	mg/L	79	70	130	1	20	

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543062													
WG543062ICV	ICV	05/27/22 16:52	II220408-5	2		2.011	mg/L	101	95	105			
WG543062ICB	ICB	05/27/22 16:58				U	mg/L		-0.09	0.09			
WG542918LRB	LRB	05/27/22 17:10				U	mg/L		-0.066	0.066			
WG542918LFB	LFB	05/27/22 17:13	II220505-2	.5005		.499	mg/L	100	85	115			
L73247-03LFM	LFM	05/27/22 18:14	II220505-2	.5005	2.68	3.181	mg/L	100	70	130			
L73247-03LFMD	LFMD	05/27/22 18:23	II220505-2	.5005	2.68	3.225	mg/L	109	70	130	1	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542888													
WG542888ICV	ICV	05/24/22 19:52	MS220502-1	.05		.051164	mg/L	102	90	110			
WG542888ICB	ICB	05/24/22 19:54				U	mg/L		-0.00015	0.00015			
WG542753LRB	LRB	05/24/22 19:56				U	mg/L		-0.00011	0.00011			
WG542753LFB	LFB	05/24/22 19:58	MS220506-2	.05005		.045872	mg/L	92	85	115			
L73222-02LFM	LFM	05/24/22 20:27	MS220506-2	.05005	U	.047372	mg/L	95	70	130			
L73222-02LFMD	LFMD	05/24/22 20:29	MS220506-2	.05005	U	.047185	mg/L	94	70	130	0	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543062													
WG543062ICV	ICV	05/27/22 16:52	II220408-5	100		96.6	mg/L	97	95	105			
WG543062ICB	ICB	05/27/22 16:58				.19	mg/L		-0.3	0.3			
WG542918LRB	LRB	05/27/22 17:10				U	mg/L		-0.22	0.22			
WG542918LFB	LFB	05/27/22 17:13	II220505-2	67.9908		67.32	mg/L	99	85	115			
L73247-03LFM	LFM	05/27/22 18:14	II220505-2	67.9908	704	764	mg/L	88	70	130			
L73247-03LFMD	LFMD	05/27/22 18:23	II220505-2	67.9908	704	779	mg/L	110	70	130	2	20	

AMECAZ

ACZ Project ID: ***L73247***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Carbon, dissolved organic (DOC) SM5310B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542656													
WG542656LFB	LFB	05/20/22 15:46	WI220510-9	50		50.3	mg/L	101	90	110			
L73213-01DUP	DUP	05/20/22 16:11			7.7	7.7	mg/L				0	20	RA
L73213-02AS	AS	05/20/22 16:33	WI220510-9	50	4.8	55	mg/L	100	90	110			

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	19.96		19.92	mg/L	100	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG542521													
WG542521LFB1	LFB	05/19/22 13:44	WI211112-6	30		30.52	mg/L	102	90	110			
WG542521LFB2	LFB	05/19/22 22:06	WI211112-6	30		30.55	mg/L	102	90	110			
L73183-04DUP	DUP	05/19/22 22:41			24.2	24.16	mg/L				0	20	
L73194-01AS	AS	05/19/22 23:53	WI211112-6	300	U	307.41	mg/L	102	90	110			
WG542806													
WG542806LFB1	LFB	05/24/22 20:40	WI211112-6	30		31.61	mg/L	105	90	110			
L73113-01DUP	DUP	05/24/22 21:16			23.9	23.88	mg/L				0	20	
L73137-09AS	AS	05/24/22 21:52	WI211112-6	300	113	430.85	mg/L	106	90	110			
WG542806LFB2	LFB	05/25/22 5:02	WI211112-6	30		31.56	mg/L	105	90	110			

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542888													
WG542888ICV	ICV	05/24/22 19:52	MS220502-1	.05		.0508	mg/L	102	90	110			
WG542888ICB	ICB	05/24/22 19:54				U	mg/L		-0.0015	0.0015			
WG542753LRB	LRB	05/24/22 19:56				U	mg/L		-0.0011	0.0011			
WG542753LFB	LFB	05/24/22 19:58	MS220506-2	.05		.04643	mg/L	93	85	115			
L73222-02LFM	LFM	05/24/22 20:27	MS220506-2	.05	U	.04688	mg/L	94	70	130			
L73222-02LFMD	LFMD	05/24/22 20:29	MS220506-2	.05	U	.04617	mg/L	92	70	130	2	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542860													
WG542860ICV	ICV	05/24/22 19:24	MS220502-1	.05		.051709	mg/L	103	90	110			
WG542860ICB	ICB	05/24/22 19:26				U	mg/L		-0.00011	0.00011			
WG542860LFB	LFB	05/24/22 19:28	MS220506-2	.05005		.046205	mg/L	92	85	115			
L73213-03AS	AS	05/24/22 20:11	MS220506-2	.05005	.000588	.047711	mg/L	94	70	130			
L73213-03ASD	ASD	05/24/22 20:13	MS220506-2	.05005	.000588	.049969	mg/L	99	70	130	5	20	

AMECAZ

ACZ Project ID: ***L73247***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542888													
WG542888ICV	ICV	05/24/22 19:52	MS220502-1	.05		.051738	mg/L	103	90	110			
WG542888ICB	ICB	05/24/22 19:54				U	mg/L		-0.00015	0.00015			
WG542753LRB	LRB	05/24/22 19:56				U	mg/L		-0.00011	0.00011			
WG542753LFB	LFB	05/24/22 19:58	MS220506-2	.05005		.047348	mg/L	95	85	115			
L73222-02LFM	LFM	05/24/22 20:27	MS220506-2	.05005	.000945	.038049	mg/L	74	70	130			
L73222-02LFMD	LFMD	05/24/22 20:29	MS220506-2	.05005	.000945	.037977	mg/L	74	70	130	0	20	

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	4.016		4.235	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.05	0.05			
WG542521													
WG542521LFB1	LFB	05/19/22 13:44	WI211112-6	1.5		1.51	mg/L	101	90	110			
WG542521LFB2	LFB	05/19/22 22:06	WI211112-6	1.5		1.456	mg/L	97	90	110			
L73183-04DUP	DUP	05/19/22 22:41			.459	.458	mg/L				0	20	RA
L73194-01AS	AS	05/19/22 23:53	WI211112-6	15	U	15.075	mg/L	101	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543079													
WG543079ICV	ICV	05/26/22 14:41	WC220517-1	2.008		2.02	mg/L	101	90	110			
WG543079ICB	ICB	05/26/22 14:47				U	mg/L		-0.3	0.3			
WG543079LFB1	LFB	05/26/22 14:54	WC220104-2	5.02		5.05	mg/L	101	90	110			
WG543079LFB2	LFB	05/26/22 17:09	WC220104-2	5.02		5.21	mg/L	104	90	110			
L73118-03AS	AS	05/26/22 17:16	WC220104-2	5.02	2.31	7.22	mg/L	98	90	110			
L73118-03ASD	ASD	05/26/22 17:20	WC220104-2	5.02	2.31	7.22	mg/L	98	90	110	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543065													
WG543065ICV	ICV	05/26/22 19:32	II220519-3	2		2.012	mg/L	101	95	105			
WG543065ICB	ICB	05/26/22 19:38				U	mg/L		-0.18	0.18			
WG543065LFB	LFB	05/26/22 19:51	II220505-2	1.0013		1.007	mg/L	101	85	115			
L73228-08AS	AS	05/26/22 21:12	II220505-2	2.0026	.134	2.024	mg/L	94	85	115			
L73228-08ASD	ASD	05/26/22 21:15	II220505-2	2.0026	.134	2.006	mg/L	93	85	115	1	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543270													
WG543270ICV	ICV	06/01/22 13:52	II220408-5	2		1.988	mg/L	99	95	105			
WG543270ICB	ICB	06/01/22 13:58				U	mg/L		-0.18	0.18			
WG542918LRB	LRB	06/01/22 14:10				U	mg/L		-0.132	0.132			
WG542918LFB	LFB	06/01/22 14:13	II220505-2	1.0013		1.014	mg/L	101	85	115			
L73247-03LFM	LFM	06/01/22 15:07	II220505-2	1.0013	.666	1.202	mg/L	54	70	130			M2
L73247-03LFMD	LFMD	06/01/22 15:10	II220505-2	1.0013	.666	1.046	mg/L	38	70	130	14	20	M2

AMECAZ

ACZ Project ID: ***L73247***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542888													
WG542888ICV	ICV	05/24/22 19:52	MS220502-1	.05		.05114	mg/L	102	90	110			
WG542888ICB	ICB	05/24/22 19:54				U	mg/L		-0.0003	0.0003			
WG542753LRB	LRB	05/24/22 19:56				U	mg/L		-0.00022	0.00022			
WG542753LFB	LFB	05/24/22 19:58	MS220506-2	.0501		.04602	mg/L	92	85	115			
L73222-02LFM	LFM	05/24/22 20:27	MS220506-2	.0501	U	.04859	mg/L	97	70	130			
L73222-02LFMD	LFMD	05/24/22 20:29	MS220506-2	.0501	U	.04879	mg/L	97	70	130	0	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543062													
WG543062ICV	ICV	05/27/22 16:52	II220408-5	2		1.9998	mg/L	100	95	105			
WG543062ICB	ICB	05/27/22 16:58				U	mg/L		-0.024	0.024			
WG542918LRB	LRB	05/27/22 17:10				U	mg/L		-0.0176	0.0176			
WG542918LFB	LFB	05/27/22 17:13	II220505-2	.998		1.016	mg/L	102	85	115			
L73247-03LFM	LFM	05/27/22 18:14	II220505-2	.998	.234	1.2695	mg/L	104	70	130			
L73247-03LFMD	LFMD	05/27/22 18:23	II220505-2	.998	.234	1.295	mg/L	106	70	130	2	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543270													
WG543270ICV	ICV	06/01/22 13:52	II220408-5	100		95.03	mg/L	95	95	105			
WG543270ICB	ICB	06/01/22 13:58				U	mg/L		-0.6	0.6			
WG542918LRB	LRB	06/01/22 14:10				U	mg/L		-0.44	0.44			
WG542918LFB	LFB	06/01/22 14:13	II220505-2	49.99922		49.19	mg/L	98	85	115			
L73247-03LFM	LFM	06/01/22 15:07	II220505-2	49.99922	156	201.45	mg/L	91	70	130			
L73247-03LFMD	LFMD	06/01/22 15:10	II220505-2	49.99922	156	200.1	mg/L	88	70	130	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543065													
WG543065ICV	ICV	05/26/22 19:32	II220519-3	2		1.968	mg/L	98	95	105			
WG543065ICB	ICB	05/26/22 19:38				U	mg/L		-0.03	0.03			
WG543065LFB	LFB	05/26/22 19:51	II220505-2	.499		.504	mg/L	101	85	115			
L73228-08AS	AS	05/26/22 21:12	II220505-2	.998	.033	1.032	mg/L	100	85	115			
L73228-08ASD	ASD	05/26/22 21:15	II220505-2	.998	.033	1.032	mg/L	100	85	115	0	20	

Manganese, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543062													
WG543062ICV	ICV	05/27/22 16:52	II220408-5	2		1.983	mg/L	99	95	105			
WG543062ICB	ICB	05/27/22 16:58				U	mg/L		-0.03	0.03			
WG542918LRB	LRB	05/27/22 17:10				U	mg/L		-0.022	0.022			
WG542918LFB	LFB	05/27/22 17:13	II220505-2	.499		.513	mg/L	103	85	115			
L73247-03LFM	LFM	05/27/22 18:14	II220505-2	.499	2.38	2.886	mg/L	101	70	130			
L73247-03LFMD	LFMD	05/27/22 18:23	II220505-2	.499	2.38	2.942	mg/L	113	70	130	2	20	

AMECAZ

ACZ Project ID: ***L73247***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Mercury, total M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542543													
WG542543ICV1	ICV	05/19/22 14:06	HG220508-3	.005005		.00525	mg/L	105	95	105			
WG542543ICB	ICB	05/19/22 14:07				U	mg/L		-0.0002	0.0002			
WG542545													
WG542545LRB	LRB	05/19/22 14:44				U	mg/L		-0.00044	0.00044			
WG542545LFB	LFB	05/19/22 14:45	HG220508-6	.002002		.00197	mg/L	98	85	115			
L73173-05LFM	LFM	05/19/22 15:00	HG220508-6	.002002	U	.0019	mg/L	95	85	115			
L73173-05LFMD	LFMD	05/19/22 15:01	HG220508-6	.002002	U	.00201	mg/L	100	85	115	6	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542888													
WG542888ICV	ICV	05/24/22 19:52	MS220502-1	.02		.01971	mg/L	99	90	110			
WG542888ICB	ICB	05/24/22 19:54				U	mg/L		-0.0006	0.0006			
WG542753LRB	LRB	05/24/22 19:56				U	mg/L		-0.00044	0.00044			
WG542753LFB	LFB	05/24/22 19:58	MS220506-2	.05005		.04556	mg/L	91	85	115			
L73222-02LFM	LFM	05/24/22 20:27	MS220506-2	.05005	.636	.68072	mg/L	89	70	130			
L73222-02LFMD	LFMD	05/24/22 20:29	MS220506-2	.05005	.636	.6781	mg/L	84	70	130	0	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542899													
WG542899ICV	ICV	05/25/22 1:01	WI220301-7	2.4161		2.38	mg/L	99	90	110			
WG542899ICB	ICB	05/25/22 1:02				U	mg/L		-0.02	0.02			
WG542901													
WG542901LFB	LFB	05/25/22 3:22	WI220401-10	2		2.009	mg/L	100	90	110			
L73181-01AS	AS	05/25/22 4:07	WI220401-10	6	4.13	10.43	mg/L	105	90	110			
L73186-01DUP	DUP	05/25/22 4:14			4.82	4.805	mg/L				0	20	

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542500													
WG542500ICV	ICV	05/19/22 11:01	WI220420-2	12.024		12.692	mg/L	106	90	110			
WG542500ICB	ICB	05/19/22 11:02				U	mg/L		-0.05	0.05			
WG542500LFB1	LFB	05/19/22 11:39	WI220420-3	10		11.632	mg/L	116	90	110			LA
WG542500LFB2	LFB	05/19/22 11:51	WI220420-3	10		11.242	mg/L	112	90	110			LA
L73221-05AS	AS	05/19/22 11:57	WI220420-3	10	.446	11.526	mg/L	111	90	110			M1
L73221-06DUP	DUP	05/19/22 12:00			.444	.465	mg/L				5	20	RA
WG542500ICV1	ICV	05/19/22 12:54	WI220420-2	12.024		11.003	mg/L	92	90	110			
WG542500ICB1	ICB	05/19/22 12:55				U	mg/L		-0.05	0.05			

AMECAZ

ACZ Project ID: ***L73247***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542697													
WG542697LCSW1	LCSW	05/20/22 18:43	PCN64057	6		6.1	units	102	5.9	6.1			
WG542697LCSW4	LCSW	05/20/22 21:08	PCN64057	6		6.1	units	102	5.9	6.1			
WG542697LCSW7	LCSW	05/20/22 23:49	PCN64057	6		6.1	units	102	5.9	6.1			
WG542697LCSW10	LCSW	05/21/22 3:20	PCN64057	6		6.1	units	102	5.9	6.1			
L73247-03DUP	DUP	05/21/22 6:19			8	8	units				0	20	
WG542697LCSW13	LCSW	05/21/22 6:23	PCN64057	6		6.1	units	102	5.9	6.1			

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543062													
WG543062ICV	ICV	05/27/22 16:52	II220408-5	20		19.34	mg/L	97	95	105			
WG543062ICB	ICB	05/27/22 16:58				U	mg/L		-0.6	0.6			
WG542918LRB	LRB	05/27/22 17:10				.22	mg/L		-0.44	0.44			
WG542918LFB	LFB	05/27/22 17:13	II220505-2	99.96218		97.34	mg/L	97	85	115			
L73247-03LFM	LFM	05/27/22 18:14	II220505-2	99.96218	6.73	103.45	mg/L	97	70	130			
L73247-03LFMD	LFMD	05/27/22 18:23	II220505-2	99.96218	6.73	104.6	mg/L	98	70	130	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542536													
WG542536PBW	PBW	05/18/22 18:10				U	mg/L		-20	20			
WG542536LCSW	LCSW	05/18/22 18:12	PCN65839	1000		990	mg/L	99	80	120			
L73272-03DUP	DUP	05/18/22 19:10			1840	1850	mg/L				1	10	
WG542775													
WG542775PBW	PBW	05/23/22 13:36				U	mg/L		-20	20			
WG542775LCSW	LCSW	05/23/22 13:38	PCN65840	1000		994	mg/L	99	80	120			
L73329-06DUP	DUP	05/23/22 14:36			184	182	mg/L				1	10	RA

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543156													
WG543156ICV	ICV	05/27/22 20:12	MS220502-1	.05		.05254	mg/L	105	90	110			
WG543156ICB	ICB	05/27/22 20:14				U	mg/L		-0.0003	0.0003			
WG542753LRB	LRB	05/27/22 20:16				U	mg/L		-0.00022	0.00022			
WG542753LFB	LFB	05/27/22 20:18	MS220506-2	.05		.04822	mg/L	96	85	115			
L73222-02LFM	LFM	05/27/22 20:36	MS220506-2	.05	.00059	.05357	mg/L	106	70	130			
L73222-02LFMD	LFMD	05/27/22 20:38	MS220506-2	.05	.00059	.05311	mg/L	105	70	130	1	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543062													
WG543062ICV	ICV	05/27/22 16:52	II220408-5	100		95.18	mg/L	95	95	105			
WG543062ICB	ICB	05/27/22 16:58				U	mg/L		-0.6	0.6			
WG542918LRB	LRB	05/27/22 17:10				U	mg/L		-0.44	0.44			
WG542918LFB	LFB	05/27/22 17:13	II220505-2	100.0282		95.71	mg/L	96	85	115			
L73247-03LFM	LFM	05/27/22 18:14	II220505-2	100.0282	1840	1908.5	mg/L	68	70	130			M3
L73247-03LFMD	LFMD	05/27/22 18:23	II220505-2	100.0282	1840	1967	mg/L	127	70	130	3	20	

AMECAZ

ACZ Project ID: ***L73247***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	51.15		53.75	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG542521													
WG542521LFB1	LFB	05/19/22 13:44	WI211112-6	30		30.6	mg/L	102	90	110			
WG542521LFB2	LFB	05/19/22 22:06	WI211112-6	30		29.31	mg/L	98	90	110			
L73183-04DUP	DUP	05/19/22 22:41			87.3	86.93	mg/L				0	20	
L73194-01AS	AS	05/19/22 23:53	WI211112-6	300	577	866.08	mg/L	96	90	110			
WG542806													
WG542806LFB1	LFB	05/24/22 20:40	WI211112-6	30		31.74	mg/L	106	90	110			
WG542806LFB2	LFB	05/25/22 5:02	WI211112-6	30		30.51	mg/L	102	90	110			
L73113-01DUP	DUP	05/25/22 20:07			1080	1050.31	mg/L				3	20	
L73137-09AS	AS	05/25/22 20:43	WI211112-6	1500	2190	3743.49	mg/L	104	90	110			

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542888													
WG542888ICV	ICV	05/24/22 19:52	MS220502-1	.05		.05305	mg/L	106	90	110			
WG542888ICB	ICB	05/24/22 19:54				U	mg/L		-0.0003	0.0003			
WG542753LRB	LRB	05/24/22 19:56				U	mg/L		-0.00022	0.00022			
WG542753LFB	LFB	05/24/22 19:58	MS220506-2	.05		.04685	mg/L	94	85	115			
L73222-02LFM	LFM	05/24/22 20:27	MS220506-2	.05	U	.05063	mg/L	101	70	130			
L73222-02LFMD	LFMD	05/24/22 20:29	MS220506-2	.05	U	.05017	mg/L	100	70	130	1	20	

Wood PLC ACZ Project ID: ***L73247***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L73247-03	WG542656	Carbon, dissolved organic (DOC)	SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG542806	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG542521	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG543270	Iron, total	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG542500	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			M350.1 Auto Salicylate w/gas diffusion	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG542775	Residue, Filterable (TDS) @180C	SM2540C	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
			SM2540C	RO	The duplicate originally assigned to this sample was not used for precision assessment because residue density did not meet method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met.
	WG543062	Sodium, total	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Wood PLC

ACZ Project ID: L73247
Date Received: 05/14/2022 10:16
Received By:
Date Printed: 5/18/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Sample three on the COC was not received.

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
4229	2.1	<=6.0	15	No

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Wood PLC

ACZ Project ID:	L73247
Date Received:	05/14/2022 10:16
Received By:	
Date Printed:	5/18/2022

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L 73247

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Natalie Christman-Lazarr
Company: Arizona Public Service Company
E-mail: Natalie.ChrismanLazarr@aps.com
Address: 400 N 5th St
Phoenix, AZ 85004
Telephone: 602-316-1324

Copy of Report to:

Name: Maren Henley (maren.henley@woodpl
Company: Wood Plc
E-mail: rebecca.weaver@woodplc.com &
Telephone: mari.wuollet@woodplc.com

Invoice to:

Name: Maren Henley
Company: Wood Plc
E-mail: apinvoice.us@woodplc.com
Address: 4600 E Washington St #600
Phoenix, AZ 85034
Telephone: 602-733-6000

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☒

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: _____ **Sampler's Site Information** **State** AZ **Zip code** 85034 **Time Zone** MST

***Sampler's Signature:** _____

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: AMECAZ-CHOLLA
PO#:
Reporting state for compliance testing: Arizona
Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	BAP-Petroglyph	CR-1R-M-57A	FAP	M-54-M-60	M-63A	MW-72M-W-307R	W-123R	
CH-CCR-SS01-0522	5/13/22:09:13	GW	3	☐	☐	☐	☒	☐	☐	☐	☐
CH-CCR-SS02-0522	5/13/22:08:13	GW	3	☐	☐	☐	☒	☐	☐	☐	☐
				☐	☒	☐	☐	☐	☐	☐	☐
				☐	☒	☐	☐	☐	☐	☐	☐
~~CH-CCR-SS05-0522~~	~~5/10/22 14:35~~	~~GW~~	~~6~~	☐	☐	☐	☐	☐	☒	☐	☐
CH-CCR-SS06-0522	5/12/22 09:35	GW	6	☐	☐	☐	☐	☐	☒	☐	☐
				☒	☐	☐	☐	☐	☐	☐	☐
				☒	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☒	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☒	☐

Sample not recieved AW 5/17/22

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

O (other matrix) = CCR surface impoundment water

Please ensure copy of report and EDDs are also sent to zachary.carroll@woodplc.com

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	05/13/22 @ 12:35	[signature]	5/17/22 10:08

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L73247 Chain of Custod

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

June 15, 2022

Report to:
Natalie Christman-Lazarr
Arizona Public Service Company
400 N. 5th St

Phoenix, AZ 85004

cc: Maren Henley

Bill to:
Maren Henley
Wood PLC
4600 East Washington St.
Suite 600
Tempe, AZ 85034-1917

Project ID:
ACZ Project ID: L73445

Natalie Christman-Lazarr:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on May 25, 2022. This project has been assigned to ACZ's project number, L73445. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L73445. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after July 15, 2022. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: FC-CCR-SS01-0522

ACZ Sample ID: ***L73445-01***
Date Sampled: *05/20/22 12:26*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								06/01/22 12:48	scp
Total Hot Plate Digestion	M200.2 ICP								06/03/22 11:08	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	06/06/22 14:34	mfm
Arsenic, total	M200.8 ICP-MS	1	0.00022	B		mg/L	0.0002	0.001	06/06/22 14:34	mfm
Barium, total	M200.8 ICP-MS	1	0.0329			mg/L	0.0005	0.0025	06/06/22 14:34	mfm
Beryllium, total	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	06/09/22 12:20	mfm
Boron, total	M200.7 ICP	1	0.554			mg/L	0.03	0.1	06/08/22 1:58	aeh
Cadmium, total	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	06/06/22 14:34	mfm
Calcium, total	M200.7 ICP	1	86.4			mg/L	0.1	0.5	06/08/22 1:58	aeh
Chromium, total	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	06/09/22 12:20	mfm
Cobalt, total	M200.8 ICP-MS	1	0.00113			mg/L	0.00005	0.00025	06/06/22 14:34	mfm
Lead, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	06/06/22 14:34	mfm
Lithium, total	M200.7 ICP	1	0.0601			mg/L	0.008	0.04	06/08/22 1:58	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/31/22 13:32	mlh
Molybdenum, total	M200.8 ICP-MS	1	0.00479			mg/L	0.0002	0.0005	06/09/22 12:20	mfm
Selenium, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.00025	06/09/22 12:20	mfm
Thallium, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	06/06/22 14:34	mfm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	10	43.1		*	mg/L	4	20	06/07/22 13:33	mad
Fluoride	SM4500F-C	1	1.39			mg/L	0.15	0.35	06/03/22 19:37	emk
Fluoride	M300.0 - Ion Chromatography	10	0.874	B	*	mg/L	0.5	2.5	06/07/22 13:33	mad
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	21.6			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	734			mg/L	20	40	05/26/22 14:56	jck
Sulfate	M300.0 - Ion Chromatography	10	406		*	mg/L	4	20	06/07/22 13:33	mad

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: FC-CCR-SS02-0522

ACZ Sample ID: ***L73445-02***
Date Sampled: *05/24/22 15:33*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								06/01/22 13:00	scp
Total Hot Plate Digestion	M200.2 ICP								06/03/22 11:34	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	1	0.00072	B		mg/L	0.0004	0.002	06/06/22 14:40	mfm
Arsenic, total	M200.8 ICP-MS	1	0.00151			mg/L	0.0002	0.001	06/06/22 14:40	mfm
Barium, total	M200.8 ICP-MS	1	0.194			mg/L	0.0005	0.0025	06/06/22 14:40	mfm
Beryllium, total	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	06/09/22 12:22	mfm
Boron, total	M200.7 ICP	1	0.326			mg/L	0.03	0.1	06/08/22 2:01	aeh
Cadmium, total	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	06/06/22 14:40	mfm
Calcium, total	M200.7 ICP	1	85.6			mg/L	0.1	0.5	06/08/22 2:01	aeh
Chromium, total	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	06/09/22 12:22	mfm
Cobalt, total	M200.8 ICP-MS	1	0.000273			mg/L	0.00005	0.00025	06/06/22 14:40	mfm
Lead, total	M200.8 ICP-MS	1	0.00018	B		mg/L	0.0001	0.0005	06/06/22 14:40	mfm
Lithium, total	M200.7 ICP	1	0.0900			mg/L	0.008	0.04	06/08/22 2:01	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/31/22 13:33	mlh
Molybdenum, total	M200.8 ICP-MS	1	0.00604			mg/L	0.0002	0.0005	06/09/22 12:22	mfm
Selenium, total	M200.8 ICP-MS	1	0.00051			mg/L	0.0001	0.00025	06/09/22 12:22	mfm
Thallium, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	06/06/22 14:40	mfm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	10	43.3			mg/L	4	20	06/07/22 13:51	mad
Fluoride	SM4500F-C	1	0.83			mg/L	0.15	0.35	06/03/22 19:41	emk
Fluoride	M300.0 - Ion Chromatography	10	0.881	B	*	mg/L	0.5	2.5	06/07/22 13:51	mad
pH (lab)	SM4500H+ B									
pH		1	8.5	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	21.9			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	766			mg/L	20	40	05/26/22 14:58	jck
Sulfate	M300.0 - Ion Chromatography	10	409			mg/L	4	20	06/07/22 13:51	mad

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Wood PLC
Project ID:
Sample ID: FC-CCR-SS03-0522

ACZ Sample ID: ***L73445-03***
Date Sampled: *05/21/22 09:48*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								06/01/22 13:36	scp
Total Hot Plate Digestion	M200.2 ICP								06/03/22 12:53	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	5	<0.002	U		mg/L	0.002	0.01	06/06/22 14:46	mfm
Arsenic, total	M200.8 ICP-MS	5	<0.001	U		mg/L	0.001	0.005	06/06/22 14:46	mfm
Barium, total	M200.8 ICP-MS	5	0.00627	B		mg/L	0.0025	0.0125	06/06/22 14:46	mfm
Beryllium, total	M200.8 ICP-MS	5	<0.0004	U		mg/L	0.0004	0.00125	06/09/22 12:27	mfm
Boron, total	M200.7 ICP	5	45.1			mg/L	0.15	0.5	06/08/22 2:11	aeh
Cadmium, total	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	06/06/22 14:46	mfm
Calcium, total	M200.7 ICP	5	527			mg/L	0.5	2.5	06/08/22 2:11	aeh
Chromium, total	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	06/09/22 12:27	mfm
Cobalt, total	M200.8 ICP-MS	5	0.00279			mg/L	0.00025	0.00125	06/06/22 14:46	mfm
Lead, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	06/06/22 14:46	mfm
Lithium, total	M200.7 ICP	5	0.215			mg/L	0.04	0.2	06/08/22 2:11	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/31/22 13:37	mlh
Molybdenum, total	M200.8 ICP-MS	5	0.00583			mg/L	0.001	0.0025	06/09/22 12:27	mfm
Selenium, total	M200.8 ICP-MS	5	0.131		*	mg/L	0.0005	0.00125	06/06/22 14:46	mfm
Thallium, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	06/06/22 14:46	mfm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	100	942			mg/L	40	200	06/07/22 14:26	mad
Fluoride	SM4500F-C	1	3.33			mg/L	0.15	0.35	06/03/22 19:53	emk
Fluoride	M300.0 - Ion Chromatography	100	<5	U	*	mg/L	5	25	06/07/22 14:26	mad
pH (lab)	SM4500H+ B									
pH		1	7.8	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	22.4			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	5	8270	H	*	mg/L	100	200	06/02/22 17:22	scd
Sulfate	M300.0 - Ion Chromatography	100	5360			mg/L	40	200	06/07/22 14:26	mad

Arizona license number: AZ0102

Wood PLC
Project ID:
Sample ID: FC-CCR-SS04-0522

ACZ Sample ID: ***L73445-04***
Date Sampled: *05/21/22 15:26*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								06/01/22 13:48	scp
Total Hot Plate Digestion	M200.2 ICP								06/03/22 13:19	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	10	<0.004	U		mg/L	0.004	0.02	06/06/22 14:49	mfm
Arsenic, total	M200.8 ICP-MS	10	<0.002	U		mg/L	0.002	0.01	06/06/22 14:49	mfm
Barium, total	M200.8 ICP-MS	10	0.00887	B		mg/L	0.005	0.025	06/06/22 14:49	mfm
Beryllium, total	M200.8 ICP-MS	10	<0.0008	U		mg/L	0.0008	0.0025	06/09/22 12:33	mfm
Boron, total	M200.7 ICP	10	0.780	B		mg/L	0.3	1	06/08/22 2:14	aeh
Cadmium, total	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	06/06/22 14:49	mfm
Calcium, total	M200.7 ICP	10	467			mg/L	1	5	06/08/22 2:14	aeh
Chromium, total	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/09/22 12:33	mfm
Cobalt, total	M200.8 ICP-MS	10	0.00147	B		mg/L	0.0005	0.0025	06/06/22 14:49	mfm
Lead, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/06/22 14:49	mfm
Lithium, total	M200.7 ICP	10	0.367	B		mg/L	0.08	0.4	06/08/22 2:14	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/31/22 13:38	mlh
Molybdenum, total	M200.8 ICP-MS	10	<0.002	U		mg/L	0.002	0.005	06/09/22 12:33	mfm
Selenium, total	M200.8 ICP-MS	10	0.233		*	mg/L	0.001	0.0025	06/06/22 14:49	mfm
Thallium, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/06/22 14:49	mfm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	200	642			mg/L	80	400	06/09/22 1:15	mad
Fluoride	SM4500F-C	1	0.28	B		mg/L	0.15	0.35	06/03/22 19:58	emk
Fluoride	M300.0 - Ion Chromatography	200	<10	U	*	mg/L	10	50	06/09/22 1:15	mad
pH (lab)	SM4500H+ B									
pH		1	7.8	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	21.8			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	5	16000			mg/L	100	200	05/26/22 15:06	jck
Sulfate	M300.0 - Ion Chromatography	200	12400			mg/L	80	400	06/09/22 1:15	mad

Arizona license number: AZ0102

Wood PLC
Project ID:
Sample ID: FC-CCR-SS05-0522

ACZ Sample ID: ***L73445-05***
Date Sampled: *05/21/22 13:55*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								06/01/22 14:00	scp
Total Hot Plate Digestion	M200.2 ICP								06/03/22 13:45	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	5	<0.002	U		mg/L	0.002	0.01	06/06/22 14:51	mfm
Arsenic, total	M200.8 ICP-MS	5	<0.001	U		mg/L	0.001	0.005	06/06/22 14:51	mfm
Barium, total	M200.8 ICP-MS	5	0.00917	B		mg/L	0.0025	0.0125	06/06/22 14:51	mfm
Beryllium, total	M200.8 ICP-MS	5	<0.0004	U		mg/L	0.0004	0.00125	06/09/22 12:35	mfm
Boron, total	M200.7 ICP	5	2.46			mg/L	0.15	0.5	06/08/22 2:17	aeh
Cadmium, total	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	06/06/22 14:51	mfm
Calcium, total	M200.7 ICP	5	503			mg/L	0.5	2.5	06/08/22 2:17	aeh
Chromium, total	M200.8 ICP-MS	5	<0.0025	U		mg/L	0.0025	0.01	06/09/22 12:35	mfm
Cobalt, total	M200.8 ICP-MS	5	0.00241			mg/L	0.00025	0.00125	06/06/22 14:51	mfm
Lead, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	06/06/22 14:51	mfm
Lithium, total	M200.7 ICP	5	0.189	B		mg/L	0.04	0.2	06/08/22 2:17	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/31/22 13:39	mlh
Molybdenum, total	M200.8 ICP-MS	5	0.00732			mg/L	0.001	0.0025	06/09/22 12:35	mfm
Selenium, total	M200.8 ICP-MS	5	0.00101	B		mg/L	0.0005	0.00125	06/09/22 12:35	mfm
Thallium, total	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	06/06/22 14:51	mfm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	50	112			mg/L	20	100	06/09/22 1:33	mad
Fluoride	SM4500F-C	1	1.78			mg/L	0.15	0.35	06/03/22 20:02	emk
Fluoride	M300.0 - Ion Chromatography	50	2.85	B	*	mg/L	2.5	12.5	06/09/22 1:33	mad
pH (lab)	SM4500H+ B									
pH		1	8.1	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	21.4			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	2	5450	H	*	mg/L	40	80	06/02/22 17:24	scd
Sulfate	M300.0 - Ion Chromatography	50	3530			mg/L	20	100	06/09/22 1:33	mad

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: FC-CCR-SS06-0522

ACZ Sample ID: ***L73445-06***
Date Sampled: *05/24/22 09:28*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								06/01/22 14:12	scp
Total Hot Plate Digestion	M200.2 ICP								06/03/22 14:11	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	10	<0.004	U		mg/L	0.004	0.02	06/06/22 14:53	mfm
Arsenic, total	M200.8 ICP-MS	10	<0.002	U		mg/L	0.002	0.01	06/06/22 14:53	mfm
Barium, total	M200.8 ICP-MS	10	0.0102	B		mg/L	0.005	0.025	06/06/22 14:53	mfm
Beryllium, total	M200.8 ICP-MS	10	<0.0008	U		mg/L	0.0008	0.0025	06/09/22 12:37	mfm
Boron, total	M200.7 ICP	10	17.0			mg/L	0.3	1	06/08/22 2:26	aeh
Cadmium, total	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	06/06/22 14:53	mfm
Calcium, total	M200.7 ICP	10	444			mg/L	1	5	06/08/22 2:26	aeh
Chromium, total	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/09/22 12:37	mfm
Cobalt, total	M200.8 ICP-MS	10	0.00144	B		mg/L	0.0005	0.0025	06/06/22 14:53	mfm
Iron, total	M200.7 ICP	10	<0.6	U		mg/L	0.6	1.5	06/08/22 2:26	aeh
Lead, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/06/22 14:53	mfm
Lithium, total	M200.7 ICP	10	1.21			mg/L	0.08	0.4	06/08/22 2:26	aeh
Magnesium, total	M200.7 ICP	10	901			mg/L	2	10	06/08/22 2:26	aeh
Manganese, total	M200.7 ICP	10	<0.1	U		mg/L	0.1	0.5	06/08/22 2:26	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/31/22 13:40	mlh
Molybdenum, total	M200.8 ICP-MS	10	0.0154			mg/L	0.002	0.005	06/09/22 12:37	mfm
Potassium, total	M200.7 ICP	10	37.1			mg/L	2	10	06/08/22 2:26	aeh
Selenium, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.0025	06/09/22 12:37	mfm
Sodium, total	M200.7 ICP	10	2940			mg/L	2	10	06/08/22 2:26	aeh
Thallium, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/06/22 14:53	mfm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	200	1070			mg/L	80	400	06/09/22 1:51	mad
Fluoride	SM4500F-C	1	0.70			mg/L	0.15	0.35	06/03/22 20:07	emk
Fluoride	M300.0 - Ion Chromatography	200	<10	U	*	mg/L	10	50	06/09/22 1:51	mad
pH (lab)	SM4500H+ B									
pH		1	7.9	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	21.4			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	5	16100			mg/L	100	200	05/26/22 15:11	jck
Sulfate	M300.0 - Ion Chromatography	200	10600			mg/L	80	400	06/09/22 1:51	mad

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Wood PLC
Project ID:
Sample ID: FC-CCR-SS07-0522

ACZ Sample ID: ***L73445-07***
Date Sampled: *05/24/22 11:55*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP				*				06/03/22 14:37	aeh
Total Hot Plate Digestion	M200.2 ICP-MS				*				06/01/22 14:24	scp

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	50	<0.02	U		mg/L	0.02	0.1	06/06/22 14:55	mfm
Arsenic, total	M200.8 ICP-MS	50	<0.01	U		mg/L	0.01	0.05	06/06/22 14:55	mfm
Barium, total	M200.8 ICP-MS	50	<0.025	U		mg/L	0.025	0.125	06/06/22 14:55	mfm
Beryllium, total	M200.8 ICP-MS	50	<0.004	U		mg/L	0.004	0.0125	06/09/22 12:39	mfm
Boron, total	M200.7 ICP	50	2.50	B		mg/L	1.5	5	06/08/22 2:29	aeh
Cadmium, total	M200.8 ICP-MS	50	<0.0025	U		mg/L	0.0025	0.0125	06/06/22 14:55	mfm
Calcium, total	M200.7 ICP	50	472			mg/L	5	25	06/08/22 2:29	aeh
Chromium, total	M200.8 ICP-MS	50	<0.025	U		mg/L	0.025	0.1	06/09/22 12:39	mfm
Cobalt, total	M200.8 ICP-MS	50	0.00856	B		mg/L	0.0025	0.0125	06/06/22 14:55	mfm
Iron, total	M200.7 ICP	50	<3	U		mg/L	3	7.5	06/08/22 2:29	aeh
Lead, total	M200.8 ICP-MS	50	<0.005	U		mg/L	0.005	0.025	06/06/22 14:55	mfm
Lithium, total	M200.7 ICP	50	2.34			mg/L	0.4	2	06/08/22 2:29	aeh
Magnesium, total	M200.7 ICP	50	2680			mg/L	10	50	06/08/22 2:29	aeh
Manganese, total	M200.7 ICP	50	<0.5	U		mg/L	0.5	2.5	06/08/22 2:29	aeh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/31/22 13:41	mlh
Molybdenum, total	M200.8 ICP-MS	50	0.0548			mg/L	0.01	0.025	06/09/22 12:39	mfm
Potassium, total	M200.7 ICP	50	101			mg/L	10	50	06/08/22 2:29	aeh
Selenium, total	M200.8 ICP-MS	50	0.00720	B		mg/L	0.005	0.0125	06/09/22 12:39	mfm
Sodium, total	M200.7 ICP	50	10900			mg/L	10	50	06/08/22 2:29	aeh
Thallium, total	M200.8 ICP-MS	50	<0.005	U		mg/L	0.005	0.025	06/06/22 14:55	mfm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	1160			mg/L	2	20	06/01/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/01/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/01/22 0:00	jck
Total Alkalinity		1	1160			mg/L	2	20	06/01/22 0:00	jck
Chloride	M300.0 - Ion Chromatography	500	3040			mg/L	200	1000	06/09/22 2:09	mad
Fluoride	SM4500F-C	1	0.51			mg/L	0.15	0.35	06/03/22 20:12	emk
Fluoride	M300.0 - Ion Chromatography	500	<25	U	*	mg/L	25	125	06/09/22 2:09	mad
pH (lab)	SM4500H+ B									
pH		1	8.0	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	21.5			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	25	50100		*	mg/L	500	1000	05/31/22 20:30	jck
Sulfate	M300.0 - Ion Chromatography	500	31900			mg/L	200	1000	06/09/22 2:09	mad

** Please refer to Qualifier Reports for details.*

Wood PLC
Project ID:
Sample ID: FC-CCR-SS07-0522

ACZ Sample ID: ***L73445-07***
Date Sampled: *05/24/22 11:55*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID:
Sample ID: FC-CCR-SS08-0522

ACZ Sample ID: ***L73445-08***
Date Sampled: *05/23/22 10:50*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS				*				06/01/22 14:36	scp
Total Hot Plate Digestion	M200.2 ICP				*				06/03/22 15:03	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Boron, total	M200.7 ICP	5	8.17			mg/L	0.15	0.5	06/08/22 2:32	aeh
Cobalt, total	M200.8 ICP-MS	10	0.00165	B		mg/L	0.0005	0.0025	06/06/22 14:57	mfm
Molybdenum, total	M200.8 ICP-MS	10	<0.002	U		mg/L	0.002	0.005	06/09/22 12:41	mfm

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Wood PLC
Project ID:
Sample ID: FC-CCR-SS09-0522

ACZ Sample ID: ***L73445-09***
Date Sampled: *05/24/22 10:38*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP								06/03/22 15:29	aeh
Total Hot Plate Digestion	M200.2 ICP-MS								06/01/22 14:48	scp

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	10	<0.004	U		mg/L	0.004	0.02	06/06/22 14:59	mfm
Arsenic, total	M200.8 ICP-MS	10	<0.002	U		mg/L	0.002	0.01	06/06/22 14:59	mfm
Barium, total	M200.8 ICP-MS	10	0.0164	B		mg/L	0.005	0.025	06/06/22 14:59	mfm
Beryllium, total	M200.8 ICP-MS	10	<0.0008	U		mg/L	0.0008	0.0025	06/09/22 12:42	mfm
Boron, total	M200.7 ICP	10	1.25			mg/L	0.3	1	06/08/22 2:35	aeh
Cadmium, total	M200.8 ICP-MS	10	<0.0005	U		mg/L	0.0005	0.0025	06/06/22 14:59	mfm
Calcium, total	M200.7 ICP	10	442			mg/L	1	5	06/08/22 2:35	aeh
Chromium, total	M200.8 ICP-MS	10	<0.005	U		mg/L	0.005	0.02	06/09/22 12:42	mfm
Cobalt, total	M200.8 ICP-MS	10	0.00362			mg/L	0.0005	0.0025	06/06/22 14:59	mfm
Iron, total	M200.7 ICP	10	0.891	B		mg/L	0.6	1.5	06/08/22 2:35	aeh
Lead, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/06/22 14:59	mfm
Lithium, total	M200.7 ICP	10	0.809			mg/L	0.08	0.4	06/08/22 2:35	aeh
Magnesium, total	M200.7 ICP	10	712			mg/L	2	10	06/08/22 2:35	aeh
Manganese, total	M200.7 ICP	10	0.272	B		mg/L	0.1	0.5	06/08/22 2:35	aeh
Molybdenum, total	M200.8 ICP-MS	10	0.00544			mg/L	0.002	0.005	06/09/22 12:42	mfm
Potassium, total	M200.7 ICP	10	41.8			mg/L	2	10	06/08/22 2:35	aeh
Selenium, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.0025	06/09/22 12:42	mfm
Sodium, total	M200.7 ICP	10	2030			mg/L	2	10	06/08/22 2:35	aeh
Thallium, total	M200.8 ICP-MS	10	<0.001	U		mg/L	0.001	0.005	06/06/22 14:59	mfm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	393			mg/L	2	20	06/01/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/01/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/01/22 0:00	jck
Total Alkalinity		1	393			mg/L	2	20	06/01/22 0:00	jck
Chloride	M300.0 - Ion Chromatography	200	484			mg/L	80	400	06/07/22 16:50	mad
Fluoride	SM4500F-C	1	0.19	B		mg/L	0.15	0.35	06/03/22 20:17	emk
Fluoride	M300.0 - Ion Chromatography	200	<10	U	*	mg/L	10	50	06/07/22 16:50	mad
pH (lab)	SM4500H+ B									
pH		1	8.0	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	21.7			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	5	11800			mg/L	100	200	05/26/22 15:17	jck
Sulfate	M300.0 - Ion Chromatography	200	8420			mg/L	80	400	06/07/22 16:50	mad

** Please refer to Qualifier Reports for details.*

Wood PLC
Project ID:
Sample ID: FC-CCR-SS09-0522

ACZ Sample ID: ***L73445-09***
Date Sampled: *05/24/22 10:38*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

AMECAZ

ACZ Project ID: ***L73445***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543272													
WG543272PBW1	PBW	05/31/22 18:40				6.4	mg/L		-20	20			
WG543272LCSW3	LCSW	05/31/22 18:56	WC220513-7	820.0001		777	mg/L	95	90	110			
WG543272LCSW6	LCSW	05/31/22 22:14	WC220513-7	820.0001		780.6	mg/L	95	90	110			
WG543272PBW2	PBW	05/31/22 22:20				6.5	mg/L		-20	20			
L73445-02DUP	DUP	06/01/22 0:42			114	113.5	mg/L				0	20	
WG543272LCSW9	LCSW	06/01/22 1:14	WC220513-7	820.0001		801.9	mg/L	98	90	110			
WG543272PBW3	PBW	06/01/22 1:19				5.4	mg/L		-20	20			
L73466-03DUP	DUP	06/01/22 2:47			99.8	119	mg/L				18	20	
WG543272LCSW12	LCSW	06/01/22 4:29	WC220513-7	820.0001		801.7	mg/L	98	90	110			
WG543272PBW4	PBW	06/01/22 4:35				4.9	mg/L		-20	20			
WG543272LCSW15	LCSW	06/01/22 7:46	WC220513-7	820.0001		806.6	mg/L	98	90	110			

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543685													
WG543685ICV	ICV	06/06/22 14:11	MS220502-1	.0201		.01989	mg/L	99	90	110			
WG543685ICB	ICB	06/06/22 14:13				U	mg/L		-0.0012	0.0012			
WG543310LRB	LRB	06/06/22 14:15				U	mg/L		-0.00088	0.00088			
WG543310LFB	LFB	06/06/22 14:17	MS220506-2	.01		.01017	mg/L	102	85	115			
L73429-04LFM	LFM	06/06/22 14:28	MS220506-2	.01	U	.00984	mg/L	98	70	130			
L73429-04LFMD	LFMD	06/06/22 14:30	MS220506-2	.01	U	.01019	mg/L	102	70	130	3	20	
L73445-02LFM	LFM	06/06/22 14:42	MS220506-2	.01	.00072	.01251	mg/L	118	70	130			
L73445-02LFMD	LFMD	06/06/22 14:44	MS220506-2	.01	.00072	.01164	mg/L	109	70	130	7	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543685													
WG543685ICV	ICV	06/06/22 14:11	MS220502-1	.05		.05015	mg/L	100	90	110			
WG543685ICB	ICB	06/06/22 14:13				U	mg/L		-0.0006	0.0006			
WG543310LRB	LRB	06/06/22 14:15				U	mg/L		-0.00044	0.00044			
WG543310LFB	LFB	06/06/22 14:17	MS220506-2	.05005		.04873	mg/L	97	85	115			
L73429-04LFM	LFM	06/06/22 14:28	MS220506-2	.05005	.00182	.04935	mg/L	95	70	130			
L73429-04LFMD	LFMD	06/06/22 14:30	MS220506-2	.05005	.00182	.04895	mg/L	94	70	130	1	20	
L73445-02LFM	LFM	06/06/22 14:42	MS220506-2	.05005	.00151	.05035	mg/L	98	70	130			
L73445-02LFMD	LFMD	06/06/22 14:44	MS220506-2	.05005	.00151	.04857	mg/L	94	70	130	4	20	

Barium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543685													
WG543685ICV	ICV	06/06/22 14:11	MS220502-1	.05		.04502	mg/L	90	90	110			
WG543685ICB	ICB	06/06/22 14:13				U	mg/L		-0.0015	0.0015			
WG543310LRB	LRB	06/06/22 14:15				U	mg/L		-0.0011	0.0011			
WG543310LFB	LFB	06/06/22 14:17	MS220506-2	.049985		.0423	mg/L	85	85	115			
L73429-04LFM	LFM	06/06/22 14:28	MS220506-2	.049985	.0114	.05283	mg/L	83	70	130			
L73429-04LFMD	LFMD	06/06/22 14:30	MS220506-2	.049985	.0114	.05224	mg/L	82	70	130	1	20	
L73445-02LFM	LFM	06/06/22 14:42	MS220506-2	.049985	.194	.24983	mg/L	112	70	130			
L73445-02LFMD	LFMD	06/06/22 14:44	MS220506-2	.049985	.194	.24197	mg/L	96	70	130	3	20	

AMECAZ

ACZ Project ID: ***L73445***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543978													
WG543978ICV	ICV	06/09/22 12:07	MS220502-1	.05		.050439	mg/L	101	90	110			
WG543978ICB	ICB	06/09/22 12:09				.000129	mg/L		-0.00024	0.00024			
WG543310LRB	LRB	06/09/22 12:11				U	mg/L		-0.000176	0.000176			
WG543310LFB	LFB	06/09/22 12:13	MS220506-2	.05005		.047728	mg/L	95	85	115			
L73429-04LFM	LFM	06/09/22 12:16	MS220506-2	.05005	.000102	.043907	mg/L	88	70	130			
L73429-04LFMD	LFMD	06/09/22 12:18	MS220506-2	.05005	.000102	.044796	mg/L	89	70	130	2	20	
L73445-02LFM	LFM	06/09/22 12:24	MS220506-2	.05005	U	.048467	mg/L	97	70	130			
L73445-02LFMD	LFMD	06/09/22 12:26	MS220506-2	.05005	U	.047542	mg/L	95	70	130	2	20	

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543801													
WG543801ICV	ICV	06/08/22 1:30	II220602-2	2		1.966	mg/L	98	95	105			
WG543801ICB	ICB	06/08/22 1:36				U	mg/L		-0.09	0.09			
WG543517LRB	LRB	06/08/22 1:49				U	mg/L		-0.066	0.066			
WG543517LFB	LFB	06/08/22 1:52	II220602-7	.5005		.524	mg/L	105	85	115			
L73445-02LFM	LFM	06/08/22 2:04	II220602-7	.5005	.326	.833	mg/L	101	70	130			
L73445-02LFMD	LFMD	06/08/22 2:07	II220602-7	.5005	.326	.834	mg/L	101	70	130	0	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543685													
WG543685ICV	ICV	06/06/22 14:11	MS220502-1	.05		.047451	mg/L	95	90	110			
WG543685ICB	ICB	06/06/22 14:13				U	mg/L		-0.00015	0.00015			
WG543310LRB	LRB	06/06/22 14:15				U	mg/L		-0.00011	0.00011			
WG543310LFB	LFB	06/06/22 14:17	MS220506-2	.05005		.044471	mg/L	89	85	115			
L73429-04LFM	LFM	06/06/22 14:28	MS220506-2	.05005	.00134	.044391	mg/L	86	70	130			
L73429-04LFMD	LFMD	06/06/22 14:30	MS220506-2	.05005	.00134	.043947	mg/L	85	70	130	1	20	
L73445-02LFM	LFM	06/06/22 14:42	MS220506-2	.05005	U	.051466	mg/L	103	70	130			
L73445-02LFMD	LFMD	06/06/22 14:44	MS220506-2	.05005	U	.048401	mg/L	97	70	130	6	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543801													
WG543801ICV	ICV	06/08/22 1:30	II220602-2	100		98.21	mg/L	98	95	105			
WG543801ICB	ICB	06/08/22 1:36				U	mg/L		-0.3	0.3			
WG543517LRB	LRB	06/08/22 1:49				U	mg/L		-0.22	0.22			
WG543517LFB	LFB	06/08/22 1:52	II220602-7	67.9908		69.61	mg/L	102	85	115			
L73445-02LFM	LFM	06/08/22 2:04	II220602-7	67.9908	85.6	153.9	mg/L	100	70	130			
L73445-02LFMD	LFMD	06/08/22 2:07	II220602-7	67.9908	85.6	156.2	mg/L	104	70	130	1	20	

AMECAZ

ACZ Project ID: ***L73445***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	19.96		19.92	mg/L	100	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG543704													
WG543704LFB1	LFB	06/07/22 9:22	WI211112-6	30		31.28	mg/L	104	90	110			
L73386-02DUP	DUP	06/07/22 9:58			U	U	mg/L				0	20	RA
L73386-03AS	AS	06/07/22 10:33	WI211112-6	30	U	31.11	mg/L	104	90	110			
L73445-02DUP	DUP	06/07/22 14:09			43.3	43.37	mg/L				0	20	
L73445-03AS	AS	06/07/22 14:44	WI211112-6	3000	942	4041.21	mg/L	103	90	110			
WG543704LFB2	LFB	06/07/22 18:02	WI211112-6	30		31.34	mg/L	104	90	110			

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543978													
WG543978ICV	ICV	06/09/22 12:07	MS220502-1	.05		.05008	mg/L	100	90	110			
WG543978ICB	ICB	06/09/22 12:09				U	mg/L		-0.0015	0.0015			
WG543310LRB	LRB	06/09/22 12:11				U	mg/L		-0.0011	0.0011			
WG543310LFB	LFB	06/09/22 12:13	MS220506-2	.05		.04664	mg/L	93	85	115			
L73429-04LFM	LFM	06/09/22 12:16	MS220506-2	.05	U	.04494	mg/L	90	70	130			
L73429-04LFMD	LFMD	06/09/22 12:18	MS220506-2	.05	U	.04532	mg/L	91	70	130	1	20	
L73445-02LFM	LFM	06/09/22 12:24	MS220506-2	.05	U	.0463	mg/L	93	70	130			
L73445-02LFMD	LFMD	06/09/22 12:26	MS220506-2	.05	U	.04601	mg/L	92	70	130	1	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543685													
WG543685ICV	ICV	06/06/22 14:11	MS220502-1	.05		.052082	mg/L	104	90	110			
WG543685ICB	ICB	06/06/22 14:13				U	mg/L		-0.00015	0.00015			
WG543310LRB	LRB	06/06/22 14:15				U	mg/L		-0.00011	0.00011			
WG543310LFB	LFB	06/06/22 14:17	MS220506-2	.05005		.049874	mg/L	100	85	115			
L73429-04LFM	LFM	06/06/22 14:28	MS220506-2	.05005	.000641	.048321	mg/L	95	70	130			
L73429-04LFMD	LFMD	06/06/22 14:30	MS220506-2	.05005	.000641	.048336	mg/L	95	70	130	0	20	
L73445-02LFM	LFM	06/06/22 14:42	MS220506-2	.05005	.000273	.04986	mg/L	99	70	130			
L73445-02LFMD	LFMD	06/06/22 14:44	MS220506-2	.05005	.000273	.049283	mg/L	98	70	130	1	20	

AMECAZ

ACZ Project ID: ***L73445***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	4.016		4.235	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.05	0.05			
WG543704													
WG543704LFB1	LFB	06/07/22 9:22	WI211112-6	1.5		1.573	mg/L	105	90	110			
L73386-02DUP	DUP	06/07/22 9:58			U	U	mg/L				0	20	RA
L73386-03AS	AS	06/07/22 10:33	WI211112-6	1.5	U	1.733	mg/L	116	90	110			M1
L73445-02DUP	DUP	06/07/22 14:09			.881	.889	mg/L				1	20	RA
L73445-03AS	AS	06/07/22 14:44	WI211112-6	150	U	143.875	mg/L	96	90	110			
WG543704LFB2	LFB	06/07/22 18:02	WI211112-6	1.5		1.514	mg/L	101	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543529													
WG543529ICV	ICV	06/03/22 10:26	WC220602-7	2.008		2.07	mg/L	103	90	110			
WG543529ICB	ICB	06/03/22 10:32				U	mg/L		-0.3	0.3			
WG543579													
WG543579ICV	ICV	06/03/22 15:48	WC220602-7	2.008		2.01	mg/L	100	90	110			
WG543579ICB	ICB	06/03/22 15:56				U	mg/L		-0.3	0.3			
WG543579LFB1	LFB	06/03/22 16:05	WC220104-2	5.02		5	mg/L	100	90	110			
WG543579LFB2	LFB	06/03/22 18:10	WC220104-2	5.02		4.95	mg/L	99	90	110			
L73445-02AS	AS	06/03/22 19:46	WC220104-2	5.02	.83	5.69	mg/L	97	90	110			
L73445-02ASD	ASD	06/03/22 19:49	WC220104-2	5.02	.83	5.62	mg/L	95	90	110	1	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543801													
WG543801ICV	ICV	06/08/22 1:30	II220602-2	2		1.968	mg/L	98	95	105			
WG543801ICB	ICB	06/08/22 1:36				U	mg/L		-0.18	0.18			
WG543517LRB	LRB	06/08/22 1:49				U	mg/L		-0.132	0.132			
WG543517LFB	LFB	06/08/22 1:52	II220602-7	1.0013		1.067	mg/L	107	85	115			
L73445-02LFM	LFM	06/08/22 2:04	II220602-7	1.0013	.126	1.154	mg/L	103	70	130			
L73445-02LFMD	LFMD	06/08/22 2:07	II220602-7	1.0013	.126	1.179	mg/L	105	70	130	2	20	

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543685													
WG543685ICV	ICV	06/06/22 14:11	MS220502-1	.05		.05105	mg/L	102	90	110			
WG543685ICB	ICB	06/06/22 14:13				U	mg/L		-0.0003	0.0003			
WG543310LRB	LRB	06/06/22 14:15				U	mg/L		-0.00022	0.00022			
WG543310LFB	LFB	06/06/22 14:17	MS220506-2	.0501		.04798	mg/L	96	85	115			
L73429-04LFM	LFM	06/06/22 14:28	MS220506-2	.0501	.00066	.04748	mg/L	93	70	130			
L73429-04LFMD	LFMD	06/06/22 14:30	MS220506-2	.0501	.00066	.04846	mg/L	95	70	130	2	20	
L73445-02LFM	LFM	06/06/22 14:42	MS220506-2	.0501	.00018	.05144	mg/L	102	70	130			
L73445-02LFMD	LFMD	06/06/22 14:44	MS220506-2	.0501	.00018	.04807	mg/L	96	70	130	7	20	

AMECAZ

ACZ Project ID: ***L73445***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543801													
WG543801ICV	ICV	06/08/22 1:30	II220602-2	2		1.9748	mg/L	99	95	105			
WG543801ICB	ICB	06/08/22 1:36				U	mg/L		-0.024	0.024			
WG543517LRB	LRB	06/08/22 1:49				U	mg/L		-0.0176	0.0176			
WG543517LFB	LFB	06/08/22 1:52	II220602-7	.998		1.002	mg/L	100	85	115			
L73445-02LFM	LFM	06/08/22 2:04	II220602-7	.998	.09	1.106	mg/L	102	70	130			
L73445-02LFMD	LFMD	06/08/22 2:07	II220602-7	.998	.09	1.12	mg/L	103	70	130	1	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543801													
WG543801ICV	ICV	06/08/22 1:30	II220602-2	100		94.85	mg/L	95	95	105			
WG543801ICB	ICB	06/08/22 1:36				U	mg/L		-0.6	0.6			
WG543517LRB	LRB	06/08/22 1:49				U	mg/L		-0.44	0.44			
WG543517LFB	LFB	06/08/22 1:52	II220602-7	49.99922		49.02	mg/L	98	85	115			
L73445-02LFM	LFM	06/08/22 2:04	II220602-7	49.99922	29.7	77.4	mg/L	95	70	130			
L73445-02LFMD	LFMD	06/08/22 2:07	II220602-7	49.99922	29.7	78.62	mg/L	98	70	130	2	20	

Manganese, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543801													
WG543801ICV	ICV	06/08/22 1:30	II220602-2	2		1.932	mg/L	97	95	105			
WG543801ICB	ICB	06/08/22 1:36				U	mg/L		-0.03	0.03			
WG543517LRB	LRB	06/08/22 1:49				U	mg/L		-0.022	0.022			
WG543517LFB	LFB	06/08/22 1:52	II220602-7	.499		.512	mg/L	103	85	115			
L73445-02LFM	LFM	06/08/22 2:04	II220602-7	.499	.015	.521	mg/L	101	70	130			
L73445-02LFMD	LFMD	06/08/22 2:07	II220602-7	.499	.015	.53	mg/L	103	70	130	2	20	

Mercury, total M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543193													
WG543193ICV	ICV	05/31/22 12:50	HG220523-3	.005005		.00508	mg/L	101	95	105			
WG543193ICB	ICB	05/31/22 12:51				U	mg/L		-0.0002	0.0002			
WG543194													
WG543194LRB	LRB	05/31/22 13:26				U	mg/L		-0.00044	0.00044			
WG543194LFB	LFB	05/31/22 13:27	HG220523-6	.002002		.00209	mg/L	104	85	115			
L73445-02LFM	LFM	05/31/22 13:34	HG220523-6	.002002	U	.00197	mg/L	98	85	115			
L73445-02LFMD	LFMD	05/31/22 13:36	HG220523-6	.002002	U	.00205	mg/L	102	85	115	4	20	
L73447-01LFM	LFM	05/31/22 13:48	HG220523-6	.002002	U	.00176	mg/L	88	85	115			
L73447-01LFMD	LFMD	05/31/22 13:49	HG220523-6	.002002	U	.00209	mg/L	104	85	115	17	20	

AMECAZ

ACZ Project ID: ***L73445***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543978													
WG543978ICV	ICV	06/09/22 12:07	MS220502-1	.02		.02011	mg/L	101	90	110			
WG543978ICB	ICB	06/09/22 12:09				U	mg/L		-0.0006	0.0006			
WG543310LRB	LRB	06/09/22 12:11				U	mg/L		-0.00044	0.00044			
WG543310LFB	LFB	06/09/22 12:13	MS220506-2	.05005		.04685	mg/L	94	85	115			
L73429-04LFM	LFM	06/09/22 12:16	MS220506-2	.05005	U	.0458	mg/L	92	70	130			
L73429-04LFMD	LFMD	06/09/22 12:18	MS220506-2	.05005	U	.04594	mg/L	92	70	130	0	20	
L73445-02LFM	LFM	06/09/22 12:24	MS220506-2	.05005	.00604	.05924	mg/L	106	70	130			
L73445-02LFMD	LFMD	06/09/22 12:26	MS220506-2	.05005	.00604	.05796	mg/L	104	70	130	2	20	

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543272													
WG543272LCSW1	LCSW	05/31/22 18:44	PCN64057	6		6.1	units	102	5.9	6.1			
WG543272LCSW4	LCSW	05/31/22 22:01	PCN64057	6		6.1	units	102	5.9	6.1			
L73445-02DUP	DUP	06/01/22 0:42			8.5	8.5	units				0	20	
WG543272LCSW7	LCSW	06/01/22 1:00	PCN64057	6		6.1	units	102	5.9	6.1			
L73466-03DUP	DUP	06/01/22 2:47			8.1	8.1	units				0	20	
WG543272LCSW10	LCSW	06/01/22 4:14	PCN64057	6		6.1	units	102	5.9	6.1			
WG543272LCSW13	LCSW	06/01/22 7:33	PCN64057	6		6.1	units	102	5.9	6.1			

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543801													
WG543801ICV	ICV	06/08/22 1:30	II220602-2	20		19.6	mg/L	98	95	105			
WG543801ICB	ICB	06/08/22 1:36				U	mg/L		-0.6	0.6			
WG543517LRB	LRB	06/08/22 1:49				U	mg/L		-0.44	0.44			
WG543517LFB	LFB	06/08/22 1:52	II220602-7	99.96218		100.8	mg/L	101	85	115			
L73445-02LFM	LFM	06/08/22 2:04	II220602-7	99.96218	8.06	109.4	mg/L	101	70	130			
L73445-02LFMD	LFMD	06/08/22 2:07	II220602-7	99.96218	8.06	110.7	mg/L	103	70	130	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543081													
WG543081PBW	PBW	05/26/22 14:30				U	mg/L		-20	20			
WG543081LCSW	LCSW	05/26/22 14:32	PCN65841	1000		988	mg/L	99	80	120			
L73445-02DUP	DUP	05/26/22 15:01			766	762	mg/L				1	10	
L73465-03DUP	DUP	05/26/22 15:30			342	342	mg/L				0	10	
WG543276													
WG543276PBW	PBW	05/31/22 20:20				U	mg/L		-20	20			
WG543276LCSW	LCSW	05/31/22 20:22	PCN63843	1000		998	mg/L	100	80	120			
L73323-02DUP	DUP	05/31/22 20:27			120	118	mg/L				2	10	RA
WG543499													
WG543499PBW	PBW	06/02/22 17:15				U	mg/L		-20	20			
WG543499LCSW	LCSW	06/02/22 17:16	PCN63841	1000		994	mg/L	99	80	120			
L73632-01DUP	DUP	06/02/22 17:38			3250	3272	mg/L				1	10	

AMECAZ

ACZ Project ID: ***L73445***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543685													
WG543685ICV	ICV	06/06/22 14:11	MS220502-1	.05		.05242	mg/L	105	90	110			
WG543685ICB	ICB	06/06/22 14:13				.00033	mg/L		-0.0003	0.0003			BB
WG543310LRB	LRB	06/06/22 14:15				U	mg/L		-0.00022	0.00022			
WG543310LFB	LFB	06/06/22 14:17	MS220506-2	.05		.04767	mg/L	95	85	115			
L73429-04LFM	LFM	06/06/22 14:28	MS220506-2	.05	.0001	.04699	mg/L	94	70	130			
L73429-04LFMD	LFMD	06/06/22 14:30	MS220506-2	.05	.0001	.04783	mg/L	95	70	130	2	20	
L73445-02LFM	LFM	06/06/22 14:42	MS220506-2	.05	.00084	.0508	mg/L	100	70	130			
L73445-02LFMD	LFMD	06/06/22 14:44	MS220506-2	.05	.00084	.04974	mg/L	98	70	130	2	20	
WG543978													
WG543978ICV	ICV	06/09/22 12:07	MS220502-1	.05		.05084	mg/L	102	90	110			
WG543978ICB	ICB	06/09/22 12:09				U	mg/L		-0.0003	0.0003			
WG543310LRB	LRB	06/09/22 12:11				U	mg/L		-0.00022	0.00022			
WG543310LFB	LFB	06/09/22 12:13	MS220506-2	.05		.0476	mg/L	95	85	115			
L73429-04LFM	LFM	06/09/22 12:16	MS220506-2	.05	U	.04511	mg/L	90	70	130			
L73429-04LFMD	LFMD	06/09/22 12:18	MS220506-2	.05	U	.04604	mg/L	92	70	130	2	20	
L73445-02LFM	LFM	06/09/22 12:24	MS220506-2	.05	.00051	.04848	mg/L	96	70	130			
L73445-02LFMD	LFMD	06/09/22 12:26	MS220506-2	.05	.00051	.04776	mg/L	95	70	130	1	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543801													
WG543801ICV	ICV	06/08/22 1:30	II220602-2	100		97.09	mg/L	97	95	105			
WG543801ICB	ICB	06/08/22 1:36				U	mg/L		-0.6	0.6			
WG543517LRB	LRB	06/08/22 1:49				U	mg/L		-0.44	0.44			
WG543517LFB	LFB	06/08/22 1:52	II220602-7	100.0282		99.28	mg/L	99	85	115			
L73445-02LFM	LFM	06/08/22 2:04	II220602-7	100.0282	111	205.7	mg/L	95	70	130			
L73445-02LFMD	LFMD	06/08/22 2:07	II220602-7	100.0282	111	209.6	mg/L	99	70	130	2	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	51.15		53.75	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG543704													
WG543704LFB1	LFB	06/07/22 9:22	WI211112-6	30		31.34	mg/L	104	90	110			
L73386-02DUP	DUP	06/07/22 9:58			1.21	1.15	mg/L				5	20	RA
L73386-03AS	AS	06/07/22 10:33	WI211112-6	30	.97	32	mg/L	103	90	110			
L73445-02DUP	DUP	06/07/22 14:09			409	409.36	mg/L				0	20	
L73445-03AS	AS	06/07/22 14:44	WI211112-6	3000	5360	8184.97	mg/L	94	90	110			
WG543704LFB2	LFB	06/07/22 18:02	WI211112-6	30		30.22	mg/L	101	90	110			

AMECAZ

ACZ Project ID: ***L73445***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543685													
WG543685ICV	ICV	06/06/22 14:11	MS220502-1	.05		.05282	mg/L	106	90	110			
WG543685ICB	ICB	06/06/22 14:13				U	mg/L		-0.0003	0.0003			
WG543310LRB	LRB	06/06/22 14:15				U	mg/L		-0.00022	0.00022			
WG543310LFB	LFB	06/06/22 14:17	MS220506-2	.05		.0479	mg/L	96	85	115			
L73429-04LFM	LFM	06/06/22 14:28	MS220506-2	.05	U	.04807	mg/L	96	70	130			
L73429-04LFMD	LFMD	06/06/22 14:30	MS220506-2	.05	U	.04771	mg/L	95	70	130	1	20	
L73445-02LFM	LFM	06/06/22 14:42	MS220506-2	.05	U	.05362	mg/L	107	70	130			
L73445-02LFMD	LFMD	06/06/22 14:44	MS220506-2	.05	U	.05087	mg/L	102	70	130	5	20	

Wood PLC ACZ Project ID: ***L73445***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L73445-01	WG543704	Chloride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Sulfate	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L73445-02	WG543704	Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L73445-03	WG543704	Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG543499	Residue, Filterable (TDS) @180C	SM2540C	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			SM2540C	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
	WG543685	Selenium, total	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
L73445-04	WG543704	Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG543685	Selenium, total	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
L73445-05	WG543704	Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG543499	Residue, Filterable (TDS) @180C	SM2540C	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			SM2540C	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
L73445-06	WG543704	Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Wood PLC ACZ Project ID: ***L73445***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L73445-07	WG543704	Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG543276	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG543310	Total Hot Plate Digestion	M200.2 ICP-MS	DH	Sample required dilution due to high TDS and/or EC value.
	WG543517		M200.2 ICP	DH	Sample required dilution due to high TDS and/or EC value.
L73445-08	WG543310	Total Hot Plate Digestion	M200.2 ICP-MS	DD	Sample required dilution due to matrix color or odor.
			M200.2 ICP-MS	DH	Sample required dilution due to high TDS and/or EC value.
	WG543517		M200.2 ICP	DH	Sample required dilution due to high TDS and/or EC value.
L73445-09	WG543704	Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Wood PLC

ACZ Project ID: L73445
Date Received: 05/25/2022 16:54
Received By:
Date Printed: 5/26/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Extra bottles for FC-CCR-SS02-0522 bottles set for MS/MSD.

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
6792	1.4	<=6.0	15	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Wood PLC

ACZ Project ID:	L73445
Date Received:	05/25/2022 16:54
Received By:	
Date Printed:	5/26/2022

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L73445

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Natalie Christman-Lazarr
Company: Arizona Public Service Company
E-mail: Natalie.ChrismanLazarr@aps.com
Address: 400 N 5th St
Phoenix, AZ 85004
Telephone: 602-316-1324

Copy of Report to:

Name: Maren Henley (maren.henley@woodpl
Company: Wood Plc
E-mail: rebecca.weaver@woodplc.com &
Telephone: mari.wuollet@woodplc.com

Invoice to:

Name: Maren Henley
Company: Wood Plc
E-mail: apinvoice.us@woodplc.com
Address: 4600 E Washington St #600
Phoenix, AZ 85034
Telephone: 602-733-6000

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☒

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: _____ **Sampler's Site Information** State AZ Zip code 85034 Time Zone PST

***Sampler's Signature:** _____

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: AMECAZ-FOUR-CORNERS
PO#:
Reporting state for compliance testing: Arizona
Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	MW-03	MW-40R	MW-57(T)	MW-64-CWTP	MW-69-MW-71-MW-83	MW-87	SUMP-16	
FC-CCR-SS01-0522	5/20/22:12:26	GW	3	☐	☐	☐	☒	☐	☐	☐	☐
FC-CCR-SS02-0522	5/24/22:15:33	SW	9	☐	☐	☐	☒	☐	☐	☐	☐
FC-CCR-SS03-0522	5/21/22: 09:48	GW	3	☐	☐	☐	☐	☒	☐	☐	☐
FC-CCR-SS04-0522	5/21/22: 15:26	GW	3	☐	☐	☐	☐	☒	☐	☐	☐
FC-CCR-SS05-0522	5/21/22: 13:55	GW	3	☐	☐	☐	☐	☒	☐	☐	☐
FC-CCR-SS06-0522	5/24/22: 09:28	GW	3	☐	☒	☐	☐	☐	☐	☐	☐
FC-CCR-SS07-0522	5/24/22: 11:55	GW	3	☐	☐	☐	☐	☐	☒	☐	☐
FC-CCR-SS08-0522	5/23/22:10:50	GW	1	☒	☐	☐	☐	☐	☐	☐	☐
FC-CCR-SS09-0522	5/24/22: 10:38	GW	3	☐	☐	☒	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☒	☐

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Extra bottles for FC-CCR-SS02-0522 bottle set for MS/MSD

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[illegible]	05/25/22 07:00	[illegible]	7:34 - 7:34 - 5-25
[illegible] 5-24	16:44	[illegible]	5/25/22 16:44

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L73445 Chain of Custod

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

June 13, 2022

Report to:
Natalie Chrisman Lazarr
Arizona Public Service Company
PO Box 355, MS 4915
Fruitland, NM 87416

Bill to:
Cameron Corley
Arizona Public Service Company
PO Box 355, MS 4915
Fruitland, NM 87416

cc: Maren Henley, Mari Wuollett, Rebecca Weaver

Project ID:
ACZ Project ID: L73446

Natalie Chrisman Lazarr:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on May 25, 2022. This project has been assigned to ACZ's project number, L73446. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L73446. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after July 13, 2022. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Arizona Public Service Company
Project ID:
Sample ID: FC-CCR-FD10-0522

ACZ Sample ID: ***L73446-01***
Date Sampled: *05/24/22 15:33*
Date Received: *05/25/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								06/01/22 16:00	scp
Total Hot Plate Digestion	M200.2 ICP								06/06/22 15:44	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	1	0.00065	B		mg/L	0.0004	0.002	06/07/22 13:00	kja
Arsenic, total	M200.8 ICP-MS	1	0.00220			mg/L	0.0002	0.001	06/07/22 13:00	kja
Barium, total	M200.8 ICP-MS	1	0.176			mg/L	0.0005	0.0025	06/07/22 17:07	kja
Beryllium, total	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	06/07/22 13:00	kja
Boron, total	M200.7 ICP	1	0.345			mg/L	0.03	0.1	06/09/22 14:55	wtc
Cadmium, total	M200.8 ICP-MS	1	<0.00005	U		mg/L	0.00005	0.00025	06/07/22 13:00	kja
Calcium, total	M200.7 ICP	1	85.0			mg/L	0.1	0.5	06/09/22 14:55	wtc
Chromium, total	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	06/07/22 13:00	kja
Cobalt, total	M200.8 ICP-MS	1	0.000416			mg/L	0.00005	0.00025	06/07/22 13:00	kja
Lead, total	M200.8 ICP-MS	1	0.00024	B		mg/L	0.0001	0.0005	06/07/22 13:00	kja
Lithium, total	M200.7 ICP	1	0.0851			mg/L	0.008	0.04	06/09/22 14:55	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/31/22 13:42	mlh
Molybdenum, total	M200.8 ICP-MS	1	0.00616			mg/L	0.0002	0.0005	06/07/22 13:00	kja
Selenium, total	M200.8 ICP-MS	1	0.00079			mg/L	0.0001	0.00025	06/07/22 13:00	kja
Thallium, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	06/07/22 17:07	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	10	42.7			mg/L	4	20	06/07/22 17:08	mad
Fluoride	SM4500F-C	1	0.83			mg/L	0.15	0.35	06/07/22 18:01	eep
Fluoride	M300.0 - Ion Chromatography	10	0.888	B	*	mg/L	0.5	2.5	06/07/22 17:08	mad
pH (lab)	SM4500H+ B									
pH		1	8.5	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	22.0			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	2	740			mg/L	40	80	05/31/22 13:03	anc
Sulfate	M300.0 - Ion Chromatography	10	403			mg/L	4	20	06/07/22 17:08	mad

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Reference

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

APS

ACZ Project ID: ***L73446***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543573													
WG543573ICV	ICV	06/07/22 12:03	MS220502-1	.0201		.0204	mg/L	101	90	110			
WG543573ICB	ICB	06/07/22 12:05				U	mg/L		-0.0012	0.0012			
WG543308LRB	LRB	06/07/22 12:07				U	mg/L		-0.00088	0.00088			
WG543308LFB1	LFB	06/07/22 12:09	MS220506-2	.01		.01068	mg/L	107	85	115			
L73432-02LFM	LFM	06/07/22 12:38	MS220506-2	.01	U	.01051	mg/L	105	70	130			
L73432-02LFMD	LFMD	06/07/22 12:40	MS220506-2	.01	U	.01106	mg/L	111	70	130	5	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543573													
WG543573ICV	ICV	06/07/22 12:03	MS220502-1	.05		.05266	mg/L	105	90	110			
WG543573ICB	ICB	06/07/22 12:05				U	mg/L		-0.0006	0.0006			
WG543308LRB	LRB	06/07/22 12:07				U	mg/L		-0.00044	0.00044			
WG543308LFB1	LFB	06/07/22 12:09	MS220506-2	.05005		.05096	mg/L	102	85	115			
L73432-02LFM	LFM	06/07/22 12:38	MS220506-2	.05005	.00314	.05588	mg/L	105	70	130			
L73432-02LFMD	LFMD	06/07/22 12:40	MS220506-2	.05005	.00314	.05528	mg/L	104	70	130	1	20	

Barium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543779													
WG543779ICV	ICV	06/07/22 16:41	MS220502-1	.05		.05168	mg/L	103	90	110			
WG543779ICB	ICB	06/07/22 16:43				U	mg/L		-0.0015	0.0015			
WG543308LRB	LRB	06/07/22 16:45				U	mg/L		-0.0011	0.0011			
WG543308LFB1	LFB	06/07/22 16:47	MS220506-2	.049985		.04912	mg/L	98	85	115			
L73324-02LFM	LFM	06/07/22 16:51	MS220506-2	.049985	.0625	.11153	mg/L	98	70	130			
L73324-02LFMD	LFMD	06/07/22 16:52	MS220506-2	.049985	.0625	.11299	mg/L	101	70	130	1	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543573													
WG543573ICV	ICV	06/07/22 12:03	MS220502-1	.05		.05345	mg/L	107	90	110			
WG543573ICB	ICB	06/07/22 12:05				.000114	mg/L		-0.00024	0.00024			
WG543308LRB	LRB	06/07/22 12:07				U	mg/L		-0.000176	0.000176			
WG543308LFB1	LFB	06/07/22 12:09	MS220506-2	.05005		.049399	mg/L	99	85	115			
L73432-02LFM	LFM	06/07/22 12:38	MS220506-2	.05005	U	.051523	mg/L	103	70	130			
L73432-02LFMD	LFMD	06/07/22 12:40	MS220506-2	.05005	U	.050823	mg/L	102	70	130	1	20	

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543907													
WG543907ICV	ICV	06/09/22 14:19	II220602-2	2		1.995	mg/L	100	95	105			
WG543907ICB	ICB	06/09/22 14:27				U	mg/L		-0.09	0.09			
WG543675LRB	LRB	06/09/22 14:40				U	mg/L		-0.066	0.066			
WG543675LFB	LFB	06/09/22 14:43	II220602-7	.5005		.516	mg/L	103	85	115			
L73464-01LFM	LFM	06/09/22 15:09	II220602-7	.5005	.058	.578	mg/L	104	70	130			
L73464-01LFMD	LFMD	06/09/22 15:12	II220602-7	.5005	.058	.572	mg/L	103	70	130	1	20	

APS ACZ Project ID: ***L73446***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543573													
WG543573ICV	ICV	06/07/22 12:03	MS220502-1	.05		.054946	mg/L	110	90	110			
WG543573ICB	ICB	06/07/22 12:05				U	mg/L		-0.00015	0.00015			
WG543308LRB	LRB	06/07/22 12:07				U	mg/L		-0.00011	0.00011			
WG543308LFB1	LFB	06/07/22 12:09	MS220506-2	.05005		.050498	mg/L	101	85	115			
L73432-02LFM	LFM	06/07/22 12:38	MS220506-2	.05005	U	.050626	mg/L	101	70	130			
L73432-02LFMD	LFMD	06/07/22 12:40	MS220506-2	.05005	U	.050095	mg/L	100	70	130	1	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543907													
WG543907ICV	ICV	06/09/22 14:19	II220602-2	100		99.15	mg/L	99	95	105			
WG543907ICB	ICB	06/09/22 14:27				U	mg/L		-0.3	0.3			
WG543675LRB	LRB	06/09/22 14:40				U	mg/L		-0.22	0.22			
WG543675LFB	LFB	06/09/22 14:43	II220602-7	67.9908		68.66	mg/L	101	85	115			
L73464-01LFM	LFM	06/09/22 15:09	II220602-7	67.9908	229	293.6	mg/L	95	70	130			
L73464-01LFMD	LFMD	06/09/22 15:12	II220602-7	67.9908	229	294	mg/L	96	70	130	0	20	

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	19.96		19.92	mg/L	100	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG543704													
WG543704LFB1	LFB	06/07/22 9:22	WI211112-6	30		31.28	mg/L	104	90	110			
L73445-02DUP	DUP	06/07/22 14:09			43.3	43.37	mg/L				0	20	
L73445-03AS	AS	06/07/22 14:44	WI211112-6	3000	942	4041.21	mg/L	103	90	110			
WG543704LFB2	LFB	06/07/22 18:02	WI211112-6	30		31.34	mg/L	104	90	110			

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543573													
WG543573ICV	ICV	06/07/22 12:03	MS220502-1	.05		.05257	mg/L	105	90	110			
WG543573ICB	ICB	06/07/22 12:05				U	mg/L		-0.0015	0.0015			
WG543308LRB	LRB	06/07/22 12:07				U	mg/L		-0.0011	0.0011			
WG543308LFB1	LFB	06/07/22 12:09	MS220506-2	.05		.05013	mg/L	100	85	115			
L73432-02LFM	LFM	06/07/22 12:38	MS220506-2	.05	U	.05177	mg/L	104	70	130			
L73432-02LFMD	LFMD	06/07/22 12:40	MS220506-2	.05	U	.05104	mg/L	102	70	130	1	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543573													
WG543573ICV	ICV	06/07/22 12:03	MS220502-1	.05		.053621	mg/L	107	90	110			
WG543573ICB	ICB	06/07/22 12:05				U	mg/L		-0.00015	0.00015			
WG543308LRB	LRB	06/07/22 12:07				U	mg/L		-0.00011	0.00011			
WG543308LFB1	LFB	06/07/22 12:09	MS220506-2	.05005		.049994	mg/L	100	85	115			
L73432-02LFM	LFM	06/07/22 12:38	MS220506-2	.05005	.000267	.052805	mg/L	105	70	130			
L73432-02LFMD	LFMD	06/07/22 12:40	MS220506-2	.05005	.000267	.051855	mg/L	103	70	130	2	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic QC Summary

APS

ACZ Project ID: ***L73446***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	4.016		4.235	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.05	0.05			
WG543704													
WG543704LFB1	LFB	06/07/22 9:22	WI211112-6	1.5		1.573	mg/L	105	90	110			
L73445-02DUP	DUP	06/07/22 14:09			.881	.889	mg/L				1	20	RA
L73445-03AS	AS	06/07/22 14:44	WI211112-6	150	U	143.875	mg/L	96	90	110			
WG543704LFB2	LFB	06/07/22 18:02	WI211112-6	1.5		1.514	mg/L	101	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543739													
WG543739ICV	ICV	06/07/22 10:42	WC220602-7	2.008		2.16	mg/L	108	90	110			
WG543739ICB	ICB	06/07/22 10:45				U	mg/L		-0.3	0.3			
WG543775													
WG543775ICV	ICV	06/07/22 15:19	WC220602-7	2.008		2.16	mg/L	108	90	110			
WG543775ICB	ICB	06/07/22 15:25				U	mg/L		-0.3	0.3			
WG543775LFB1	LFB	06/07/22 15:34	WC220606-1	5.02		5.32	mg/L	106	90	110			
L73446-01AS	AS	06/07/22 18:05	WC220606-1	5.02	.83	5.8	mg/L	99	90	110			
L73446-01ASD	ASD	06/07/22 18:09	WC220606-1	5.02	.83	5.93	mg/L	102	90	110	2	20	
WG543775LFB2	LFB	06/07/22 18:22	WC220606-1	5.02		5.39	mg/L	107	90	110			

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543573													
WG543573ICV	ICV	06/07/22 12:03	MS220502-1	.05		.05448	mg/L	109	90	110			
WG543573ICB	ICB	06/07/22 12:05				U	mg/L		-0.0003	0.0003			
WG543308LRB	LRB	06/07/22 12:07				U	mg/L		-0.00022	0.00022			
WG543308LFB1	LFB	06/07/22 12:09	MS220506-2	.0501		.05057	mg/L	101	85	115			
L73432-02LFM	LFM	06/07/22 12:38	MS220506-2	.0501	U	.05277	mg/L	105	70	130			
L73432-02LFMD	LFMD	06/07/22 12:40	MS220506-2	.0501	U	.05249	mg/L	105	70	130	1	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543907													
WG543907ICV	ICV	06/09/22 14:19	II220602-2	2		1.977	mg/L	99	95	105			
WG543907ICB	ICB	06/09/22 14:27				U	mg/L		-0.024	0.024			
WG543675LRB	LRB	06/09/22 14:40				U	mg/L		-0.0176	0.0176			
WG543675LFB	LFB	06/09/22 14:43	II220602-7	.998		.9825	mg/L	98	85	115			
L73464-01LFM	LFM	06/09/22 15:09	II220602-7	.998	.0387	1.026	mg/L	99	70	130			
L73464-01LFMD	LFMD	06/09/22 15:12	II220602-7	.998	.0387	1.023	mg/L	99	70	130	0	20	

APS

ACZ Project ID: ***L73446***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Mercury, total M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543193													
WG543193ICV	ICV	05/31/22 12:50	HG220523-3	.005005		.00508	mg/L	101	95	105			
WG543193ICB	ICB	05/31/22 12:51				U	mg/L		-0.0002	0.0002			
WG543194													
WG543194LRB	LRB	05/31/22 13:26				U	mg/L		-0.00044	0.00044			
WG543194LFB	LFB	05/31/22 13:27	HG220523-6	.002002		.00209	mg/L	104	85	115			
L73447-01LFM	LFM	05/31/22 13:48	HG220523-6	.002002	U	.00176	mg/L	88	85	115			
L73447-01LFMD	LFMD	05/31/22 13:49	HG220523-6	.002002	U	.00209	mg/L	104	85	115	17	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543573													
WG543573ICV	ICV	06/07/22 12:03	MS220502-1	.02		.02159	mg/L	108	90	110			
WG543573ICB	ICB	06/07/22 12:05				U	mg/L		-0.0006	0.0006			
WG543308LRB	LRB	06/07/22 12:07				U	mg/L		-0.00044	0.00044			
WG543308LFB1	LFB	06/07/22 12:09	MS220506-2	.05005		.05075	mg/L	101	85	115			
L73432-02LFM	LFM	06/07/22 12:38	MS220506-2	.05005	.00334	.05553	mg/L	104	70	130			
L73432-02LFMD	LFMD	06/07/22 12:40	MS220506-2	.05005	.00334	.05497	mg/L	103	70	130	1	20	

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543272													
WG543272LCSW1	LCSW	05/31/22 18:44	PCN64057	6		6.1	units	102	5.9	6.1			
WG543272LCSW4	LCSW	05/31/22 22:01	PCN64057	6		6.1	units	102	5.9	6.1			
WG543272LCSW7	LCSW	06/01/22 1:00	PCN64057	6		6.1	units	102	5.9	6.1			
L73466-03DUP	DUP	06/01/22 2:47			8.1	8.1	units				0	20	
WG543272LCSW10	LCSW	06/01/22 4:14	PCN64057	6		6.1	units	102	5.9	6.1			
WG543272LCSW13	LCSW	06/01/22 7:33	PCN64057	6		6.1	units	102	5.9	6.1			

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543236													
WG543236PBW	PBW	05/31/22 12:11				U	mg/L		-20	20			
WG543236LCSW	LCSW	05/31/22 12:13	PCN63843	1000		980	mg/L	98	80	120			
L73446-01DUP	DUP	05/31/22 13:05			740	744	mg/L				1	10	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543573													
WG543573ICV	ICV	06/07/22 12:03	MS220502-1	.05		.05197	mg/L	104	90	110			
WG543573ICB	ICB	06/07/22 12:05				.00014	mg/L		-0.0003	0.0003			
WG543308LRB	LRB	06/07/22 12:07				U	mg/L		-0.00022	0.00022			
WG543308LFB1	LFB	06/07/22 12:09	MS220506-2	.05		.04994	mg/L	100	85	115			
L73432-02LFM	LFM	06/07/22 12:38	MS220506-2	.05	.00035	.05192	mg/L	103	70	130			
L73432-02LFMD	LFMD	06/07/22 12:40	MS220506-2	.05	.00035	.0516	mg/L	103	70	130	1	20	

APS

ACZ Project ID: ***L73446***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	51.15		53.75	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG543704													
WG543704LFB1	LFB	06/07/22 9:22	WI211112-6	30		31.34	mg/L	104	90	110			
L73445-02DUP	DUP	06/07/22 14:09			409	409.36	mg/L				0	20	
L73445-03AS	AS	06/07/22 14:44	WI211112-6	3000	5360	8184.97	mg/L	94	90	110			
WG543704LFB2	LFB	06/07/22 18:02	WI211112-6	30		30.22	mg/L	101	90	110			

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543779													
WG543779ICV	ICV	06/07/22 16:41	MS220502-1	.05		.05313	mg/L	106	90	110			
WG543779ICB	ICB	06/07/22 16:43				U	mg/L		-0.0003	0.0003			
WG543308LRB	LRB	06/07/22 16:45				U	mg/L		-0.00022	0.00022			
WG543308LFB1	LFB	06/07/22 16:47	MS220506-2	.05		.04911	mg/L	98	85	115			
L73324-02LFM	LFM	06/07/22 16:51	MS220506-2	.05	U	.04996	mg/L	100	70	130			
L73324-02LFMD	LFMD	06/07/22 16:52	MS220506-2	.05	U	.05005	mg/L	100	70	130	0	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Arizona Public Service Company

ACZ Project ID: ***L73446***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L73446-01	WG543704	Fluoride	M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Arizona Public Service Company

ACZ Project ID: L73446
Date Received: 05/25/2022 16:54
Received By:
Date Printed: 6/13/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
6792	1.4	<=6.0	15	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Arizona Public Service Company

ACZ Project ID:	L73446
Date Received:	05/25/2022 16:54
Received By:	
Date Printed:	6/13/2022

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L 73446

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Natalie Christman-Lazarr
Company: Arizona Public Service Company
E-mail: Natalie.ChrismanLazarr@aps.com

Address: 400 N 5th St
Phoenix, AZ 85004
Telephone: 602-316-1324

Copy of Report to:

Name: Maren Henley (maren.henley@woodpl
Company: Wood Plc

E-mail: rebecca.weaver@woodplc.com &
Telephone: mari.wuollet@woodplc.com

Invoice to:

Name: Maren Henley
Company: Wood Plc
E-mail: apinvoice.us@woodplc.com

Address: 4600 E Washington St #600
Phoenix, AZ 85034
Telephone: 602-733-6000

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☒

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: _____ **Sampler's Site Information** State AZ Zip code 85034 Time Zone PST

***Sampler's Signature:** _____

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: AMECAZ-FOUR-CORNERS
PO#:
Reporting state for compliance testing: Arizona
Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	MW-03	MW-40R	MW-57(T)	MW-64-CWTP	MW-69-MW-71-MW-83	MW-87	SUMP-16	
FC-CCR-FD10-0522	5/24/22:15:33	SW	3	☐	☐	☐	☒	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	05/25/22 07:00	[signature]	7:34 May 25
[signature]	7:25	[signature]	5/25/22 10:44

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L73446 Chain of Custod

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

June 27, 2022

Report to:
Natalie Christman-Lazarr
Arizona Public Service Company
400 N. 5th St

Phoenix, AZ 85004

cc: Maren Henley, Zachary Carroll

Bill to:
Maren Henley
Wood PLC
4600 East Washington St.
Suite 600
Tempe, AZ 85034-1917

Project ID: C014104859
ACZ Project ID: L73586

Natalie Christman-Lazarr:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 01, 2022. This project has been assigned to ACZ's project number, L73586. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L73586. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after July 27, 2022. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

Wood PLC

June 27, 2022

Project ID: C014104859
ACZ Project ID: L73586

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 1 groundwater sample from Wood PLC on June 1, 2022. The sample was received in good condition. Upon receipt, the sample custodian removed the sample from the cooler, inspected the contents, and logged the sample into ACZ's computerized Laboratory Information Management System (LIMS). The sample was assigned ACZ LIMS project number L73586. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times except for parameters flagged with "H" flags (HE, H2), received either too close to the hold time or requiring re-analysis after the hold time had expired.

Sample Analysis

This sample was analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following required further detail not provided by the Extended Qualifier Report:

1. TDS (N1) - ACZ SOP prescribes samples with >5 dry cycles to be sent to re on a dilution. The method does not require a limit on dry cycles to obtain a constant weight. The sample was dried greater than 5 dry cycles to obtain a constant weight.

Wood PLC
Project ID: C014104859
Sample ID: CH-CCR-SS05-0522

ACZ Sample ID: ***L73586-01***
Date Sampled: *05/27/22 11:42*
Date Received: *06/01/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP								06/09/22 16:02	aeh
Total Hot Plate Digestion	M200.2 ICP-MS								06/08/22 16:30	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total	M200.8 ICP-MS	50	<0.02	U		mg/L	0.02	0.1	06/10/22 19:23	kja
Arsenic, dissolved	M200.8 ICP-MS	50	<0.01	U		mg/L	0.01	0.05	06/10/22 0:57	kja
Arsenic, total	M200.8 ICP-MS	50	<0.01	U		mg/L	0.01	0.05	06/10/22 19:23	kja
Barium, total	M200.8 ICP-MS	50	0.197			mg/L	0.025	0.125	06/10/22 19:23	kja
Beryllium, total	M200.8 ICP-MS	50	<0.004	U		mg/L	0.004	0.0125	06/10/22 19:23	kja
Boron, total	M200.7 ICP	50	<1.5	U		mg/L	1.5	5	06/10/22 21:37	wtc
Cadmium, total	M200.8 ICP-MS	50	<0.0025	U		mg/L	0.0025	0.0125	06/10/22 19:23	kja
Calcium, total	M200.7 ICP	50	8260			mg/L	5	25	06/10/22 21:37	wtc
Chromium, total	M200.8 ICP-MS	50	<0.025	U		mg/L	0.025	0.1	06/10/22 19:23	kja
Cobalt, dissolved	M200.8 ICP-MS	50	0.0301			mg/L	0.0025	0.0125	06/10/22 0:57	kja
Cobalt, total	M200.8 ICP-MS	50	0.0387			mg/L	0.0025	0.0125	06/10/22 19:23	kja
Iron, dissolved	M200.7 ICP	50	<3	U		mg/L	3	7.5	06/14/22 19:53	wtc
Iron, total	M200.7 ICP	50	<3	U	*	mg/L	3	7.5	06/10/22 21:37	wtc
Lead, total	M200.8 ICP-MS	50	<0.005	U		mg/L	0.005	0.025	06/10/22 19:23	kja
Lithium, total	M200.7 ICP	50	4.18			mg/L	0.4	2	06/10/22 21:37	wtc
Magnesium, total	M200.7 ICP	50	1020			mg/L	10	50	06/10/22 21:37	wtc
Manganese, dissolved	M200.7 ICP	50	4.87			mg/L	0.5	2.5	06/14/22 19:53	wtc
Manganese, total	M200.7 ICP	50	4.57			mg/L	0.5	2.5	06/10/22 21:37	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/09/22 13:55	mlh
Molybdenum, total	M200.8 ICP-MS	50	0.0295			mg/L	0.01	0.025	06/10/22 19:23	kja
Potassium, total	M200.7 ICP	50	109			mg/L	10	50	06/10/22 21:37	wtc
Selenium, total	M200.8 ICP-MS	50	<0.005	U		mg/L	0.005	0.0125	06/10/22 19:23	kja
Sodium, total	M200.7 ICP	50	12800			mg/L	10	50	06/10/22 21:37	wtc
Thallium, total	M200.8 ICP-MS	50	<0.005	U		mg/L	0.005	0.025	06/10/22 19:23	kja

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Wood PLC
Project ID: C014104859
Sample ID: CH-CCR-SS05-0522

ACZ Sample ID: ***L73586-01***
Date Sampled: *05/27/22 11:42*
Date Received: *06/01/22*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	29.9			mg/L	2	20	06/07/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	06/07/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/07/22 0:00	jck
Total Alkalinity		1	29.9			mg/L	2	20	06/07/22 0:00	jck
Carbon, dissolved organic (DOC)	SM5310B	1	<1	U	*	mg/L	1	5	06/17/22 1:33	mad
Chloride	M300.0 - Ion Chromatography	1000	36900			mg/L	400	2000	06/16/22 7:35	mad
Fluoride	SM4500F-C	1	0.29	B		mg/L	0.15	0.35	06/13/22 18:37	emk
Fluoride	M300.0 - Ion Chromatography	1000	<50	U	*	mg/L	50	250	06/16/22 7:35	mad
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.176			mg/L	0.02	0.1	06/09/22 2:33	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	1.04		*	mg/L	0.05	0.2	06/05/22 14:12	mjj1
pH (lab)	SM4500H+ B									
pH		1	7.0	H		units	0.1	0.1	06/07/22 0:00	jck
pH measured at		1	21.9			C	0.1	0.1	06/07/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	25	67500	H	*	mg/L	500	1000	06/10/22 19:30	jck
Sulfate	M300.0 - Ion Chromatography	500	975	B	*	mg/L	200	1000	06/21/22 4:57	mad

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Reference

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

AMECAZ

ACZ Project ID: ***L73586***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543717													
WG543717PBW1	PBW	06/06/22 19:49				2	mg/L		-20	20			
WG543717LCSW3	LCSW	06/06/22 20:08	WC220601-2	820.0001		795.7	mg/L	97	90	110			
WG543717LCSW6	LCSW	06/06/22 23:26	WC220601-2	820.0001		802.5	mg/L	98	90	110			
WG543717PBW2	PBW	06/06/22 23:32				4.3	mg/L		-20	20			
WG543717LCSW9	LCSW	06/07/22 2:17	WC220601-2	820.0001		781	mg/L	95	90	110			
WG543717PBW3	PBW	06/07/22 2:23				7.7	mg/L		-20	20			
WG543717LCSW12	LCSW	06/07/22 5:19	WC220601-2	820.0001		816.6	mg/L	100	90	110			
WG543717PBW4	PBW	06/07/22 5:26				5.4	mg/L		-20	20			
L73585-02DUP	DUP	06/07/22 5:58			172	171.4	mg/L				0	20	
WG543717LCSW15	LCSW	06/07/22 8:27	WC220601-2	820.0001		805	mg/L	98	90	110			

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.0201		.01898	mg/L	94	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.0012	0.0012			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.00088	0.00088			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.01		.01021	mg/L	102	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.01	U	.01014	mg/L	101	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.01	U	.01031	mg/L	103	70	130	2	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544033													
WG544033ICV	ICV	06/10/22 0:26	MS220502-1	.05		.05193	mg/L	104	90	110			
WG544033ICB	ICB	06/10/22 0:28				U	mg/L		-0.00044	0.00044			
WG544033LFB	LFB	06/10/22 0:30	MS220601-10	.05005		.05192	mg/L	104	85	115			
L73623-13AS	AS	06/10/22 1:18	MS220601-10	.05005	U	.05427	mg/L	108	70	130			
L73623-13ASD	ASD	06/10/22 1:19	MS220601-10	.05005	U	.05382	mg/L	108	70	130	1	20	

Arsenic, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.05		.05179	mg/L	104	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.0006	0.0006			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.00044	0.00044			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.05005		.05008	mg/L	100	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.05005	.00022	.05057	mg/L	101	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.05005	.00022	.05098	mg/L	101	70	130	1	20	

AMECAZ

ACZ Project ID: ***L73586***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Barium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.05		.05157	mg/L	103	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.0015	0.0015			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.0011	0.0011			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.049985		.04851	mg/L	97	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.049985	.0535	.10123	mg/L	95	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.049985	.0535	.10216	mg/L	97	70	130	1	20	

Beryllium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.05		.051703	mg/L	103	90	110			
WG544078ICB	ICB	06/10/22 18:55				.000194	mg/L		-0.00024	0.00024			
WG543915LRB	LRB	06/10/22 18:57				.000095	mg/L		-0.000176	0.000176			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.05005		.048947	mg/L	98	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.05005	U	.050397	mg/L	101	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.05005	U	.051427	mg/L	103	70	130	2	20	

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	2		2.009	mg/L	100	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.09	0.09			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.066	0.066			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	.5005		.504	mg/L	101	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	.5005	U	.51	mg/L	102	70	130			
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	.5005	U	.505	mg/L	101	70	130	1	20	

Cadmium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.05		.052441	mg/L	105	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.00015	0.00015			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.00011	0.00011			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.05005		.049712	mg/L	99	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.05005	U	.049275	mg/L	98	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.05005	U	.049443	mg/L	99	70	130	0	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	100		99.9	mg/L	100	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.3	0.3			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.22	0.22			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	67.9908		69.45	mg/L	102	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	67.9908	8.41	77.89	mg/L	102	70	130			
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	67.9908	8.41	77.06	mg/L	101	70	130	1	20	

AMECAZ

ACZ Project ID: ***L73586***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Carbon, dissolved organic (DOC) SM5310B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544215													
WG544215LFB	LFB	06/16/22 23:08	WI220510-9	50		48.7	mg/L	97	90	110			
L73529-02DUP	DUP	06/16/22 23:33			2.4	2.3	mg/L				4	20	RA
L73529-03AS	AS	06/17/22 0:06	WI220510-9	50	2.3	53.9	mg/L	103	90	110			

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	19.96		19.92	mg/L	100	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.4	0.4			
WG544381													
WG544381LFB1	LFB	06/15/22 18:44	WI211112-6	30		30.52	mg/L	102	90	110			
WG544381LFB2	LFB	06/16/22 3:24	WI211112-6	30		30.87	mg/L	103	90	110			
L73571-01DUP	DUP	06/16/22 4:00			81.8	81.76	mg/L				0	20	
L73575-01AS	AS	06/16/22 5:12	WI211112-6	30	.92	31.46	mg/L	102	90	110			

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.05		.05154	mg/L	103	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.0015	0.0015			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.0011	0.0011			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.05		.04964	mg/L	99	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.05	U	.04898	mg/L	98	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.05	U	.04882	mg/L	98	70	130	0	20	

Cobalt, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544033													
WG544033ICV	ICV	06/10/22 0:26	MS220502-1	.05		.052544	mg/L	105	90	110			
WG544033ICB	ICB	06/10/22 0:28				U	mg/L		-0.00011	0.00011			
WG544033LFB	LFB	06/10/22 0:30	MS220601-10	.05005		.052718	mg/L	105	85	115			
L73623-13AS	AS	06/10/22 1:18	MS220601-10	.05005	.0228	.07386	mg/L	102	70	130			
L73623-13ASD	ASD	06/10/22 1:19	MS220601-10	.05005	.0228	.07292	mg/L	100	70	130	1	20	

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.05		.052697	mg/L	105	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.00015	0.00015			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.00011	0.00011			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.05005		.049553	mg/L	99	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.05005	.000204	.049	mg/L	97	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.05005	.000204	.049104	mg/L	98	70	130	0	20	

AMECAZ

ACZ Project ID: ***L73586***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539431													
WG539431ICV	ICV	03/30/22 19:59	WI220328-5	4.016		4.235	mg/L	105	90	110			
WG539431ICB	ICB	03/30/22 20:17				U	mg/L		-0.05	0.05			
WG544381													
WG544381LFB1	LFB	06/15/22 18:44	WI211112-6	1.5		1.521	mg/L	101	90	110			
WG544381LFB2	LFB	06/16/22 3:24	WI211112-6	1.5		1.479	mg/L	99	90	110			
L73571-01DUP	DUP	06/16/22 4:00			25.8	25.844	mg/L				0	20	
L73575-01AS	AS	06/16/22 5:12	WI211112-6	1.5	.301	1.814	mg/L	101	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544184													
WG544184ICV	ICV	06/13/22 10:30	WC220608-1	2.008		2.08	mg/L	104	90	110			
WG544184ICB	ICB	06/13/22 10:36				U	mg/L		-0.3	0.3			
WG544201													
WG544201ICV	ICV	06/13/22 14:10	WC220608-1	2.008		2.1	mg/L	105	90	110			
WG544201ICB	ICB	06/13/22 14:17				U	mg/L		-0.3	0.3			
WG544201LFB1	LFB	06/13/22 14:26	WC220606-1	5.02		5	mg/L	100	90	110			
WG544201LFB2	LFB	06/13/22 17:01	WC220606-1	5.02		4.8	mg/L	96	90	110			
L73583-04AS	AS	06/13/22 18:17	WC220606-1	5.02	.16	5	mg/L	96	90	110			
L73583-04ASD	ASD	06/13/22 18:32	WC220606-1	5.02	.16	4.93	mg/L	95	90	110	1	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544333													
WG544333ICV	ICV	06/14/22 18:07	II220609-1	2		1.973	mg/L	99	95	105			
WG544333ICB	ICB	06/14/22 18:13				U	mg/L		-0.18	0.18			
WG544333LFB	LFB	06/14/22 18:25	II220602-7	1.0013		1.036	mg/L	103	85	115			
L73583-04AS	AS	06/14/22 19:47	II220602-7	1.0013	.115	1.164	mg/L	105	85	115			
L73583-04ASD	ASD	06/14/22 19:50	II220602-7	1.0013	.115	1.181	mg/L	106	85	115	1	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	2		2.016	mg/L	101	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.18	0.18			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.132	0.132			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	1.0013		1.024	mg/L	102	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	1.0013	1.63	2.947	mg/L	132	70	130			MA
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	1.0013	1.63	2.807	mg/L	118	70	130	5	20	

AMECAZ

ACZ Project ID: ***L73586***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.05		.05274	mg/L	105	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.0003	0.0003			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.00022	0.00022			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.0501		.04972	mg/L	99	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.0501	U	.04971	mg/L	99	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.0501	U	.04994	mg/L	100	70	130	0	20	

Lithium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	2		1.9498	mg/L	97	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.024	0.024			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.0176	0.0176			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	.998		.9786	mg/L	98	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	.998	U	1.015	mg/L	102	70	130			
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	.998	U	1.008	mg/L	101	70	130	1	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	100		96.16	mg/L	96	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.6	0.6			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.44	0.44			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	49.99922		48.93	mg/L	98	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	49.99922	2.01	49.45	mg/L	95	70	130			
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	49.99922	2.01	48.79	mg/L	94	70	130	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544333													
WG544333ICV	ICV	06/14/22 18:07	II220609-1	2		1.974	mg/L	99	95	105			
WG544333ICB	ICB	06/14/22 18:13				U	mg/L		-0.03	0.03			
WG544333LFB	LFB	06/14/22 18:25	II220602-7	.499		.522	mg/L	105	85	115			
L73583-04AS	AS	06/14/22 19:47	II220602-7	.499	U	.529	mg/L	106	85	115			
L73583-04ASD	ASD	06/14/22 19:50	II220602-7	.499	U	.527	mg/L	106	85	115	0	20	

Manganese, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	2		1.952	mg/L	98	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.03	0.03			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.022	0.022			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	.499		.5	mg/L	100	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	.499	.019	.52	mg/L	100	70	130			
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	.499	.019	.511	mg/L	99	70	130	2	20	

AMECAZ

ACZ Project ID: ***L73586***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Mercury, total M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543957													
WG543957ICV1	ICV	06/09/22 13:50	HG220606-3	.005005		.00508	mg/L	101	95	105			
WG543957ICB	ICB	06/09/22 13:51				U	mg/L		-0.0002	0.0002			
WG543957LRB	LRB	06/09/22 13:53				U	mg/L		-0.00044	0.00044			
WG543957LFB	LFB	06/09/22 13:54	HG220606-6	.002002		.00198	mg/L	99	85	115			
L73628-01LFM	LFM	06/09/22 13:57	HG220606-6	.002002	U	.00194	mg/L	97	85	115			
L73628-01LFMD	LFMD	06/09/22 13:58	HG220606-6	.002002	U	.00204	mg/L	102	85	115	5	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.02		.02022	mg/L	101	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.0006	0.0006			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.00044	0.00044			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.05005		.04981	mg/L	100	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.05005	.00091	.05088	mg/L	100	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.05005	.00091	.05152	mg/L	101	70	130	1	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543932													
WG543932ICV	ICV	06/08/22 23:43	WI220602-3	2.4161		2.339	mg/L	97	90	110			
WG543932ICB	ICB	06/08/22 23:44				U	mg/L		-0.02	0.02			
WG543935													
WG543935LFB	LFB	06/09/22 1:55	WI220401-10	2		1.963	mg/L	98	90	110			
L65078-62AS	AS	06/09/22 2:17	WI220401-10	2	U	2.059	mg/L	103	90	110			
L73380-01DUP	DUP	06/09/22 2:19			.826	.824	mg/L				0	20	

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543617													
WG543617ICV	ICV	06/05/22 13:03	WI220511-5	12.024		11.674	mg/L	97	90	110			
WG543617ICB	ICB	06/05/22 13:05				U	mg/L		-0.05	0.05			
WG543617LFB2	LFB	06/05/22 13:49	WI220420-3	10		9.511	mg/L	95	90	110			
WG543617LFB1	LFB	06/05/22 13:59	WI220420-3	10		9.817	mg/L	98	90	110			
L73483-02AS	AS	06/05/22 14:02	WI220420-3	10		10.427	mg/L	104	90	110			
L73571-01DUP	DUP	06/05/22 14:05			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543717													
WG543717LCSW1	LCSW	06/06/22 19:54	PCN64057	6		6.1	units	102	5.9	6.1			
WG543717LCSW7	LCSW	06/07/22 2:04	PCN64057	6		6.1	units	102	5.9	6.1			
WG543717LCSW10	LCSW	06/07/22 5:05	PCN64057	6		6.1	units	102	5.9	6.1			
L73585-02DUP	DUP	06/07/22 5:58			8.4	8.4	units				0	20	
WG543717LCSW13	LCSW	06/07/22 8:14	PCN64057	6		6.1	units	102	5.9	6.1			

AMECAZ

ACZ Project ID: ***L73586***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	20		19.77	mg/L	99	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.6	0.6			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.44	0.44			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	99.96218		99.9	mg/L	100	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	99.96218	1.05	102.5	mg/L	101	70	130			
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	99.96218	1.05	101.7	mg/L	101	70	130	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544150													
WG544150PBW	PBW	06/10/22 19:25				U	mg/L		-20	20			
WG544150LCSW	LCSW	06/10/22 19:27	PCN65847	1000		980	mg/L	98	80	120			
L73835-02DUP	DUP	06/10/22 19:56			444	446	mg/L				0	10	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.05		.05089	mg/L	102	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.0003	0.0003			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.00022	0.00022			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.05		.04897	mg/L	98	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.05	U	.04786	mg/L	96	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.05	U	.04896	mg/L	98	70	130	2	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	100		99.06	mg/L	99	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.6	0.6			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.44	0.44			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	100.0282		101.5	mg/L	101	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	100.0282	11.1	119.1	mg/L	108	70	130			
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	100.0282	11.1	118.2	mg/L	107	70	130	1	20	

Sulfate M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544730													
WG544730ICV	ICV	06/19/22 19:40	WI220620-2	51.15		48.04	mg/L	94	90	110			
WG544730ICB	ICB	06/19/22 19:58				U	mg/L		-0.4	0.4			
WG544730LFB1	LFB	06/20/22 20:53	WI211112-6	30		27.93	mg/L	93	90	110			
L73575-01DUP	DUP	06/21/22 1:40			90.2	90.02	mg/L				0	20	
L73575-02AS	AS	06/21/22 2:16	WI211112-6	150	124	268.5	mg/L	96	90	110			
WG544730LFB2	LFB	06/21/22 5:33	WI211112-6	30		27.42	mg/L	91	90	110			

AMECAZ

ACZ Project ID: ***L73586***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Thallium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.05		.05366	mg/L	107	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.0003	0.0003			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.00022	0.00022			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.05		.04963	mg/L	99	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.05	U	.05002	mg/L	100	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.05	U	.0503	mg/L	101	70	130	1	20	

Wood PLC ACZ Project ID: ***L73586***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L73586-01	WG544215	Carbon, dissolved organic (DOC)	SM5310B	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG544381	Fluoride	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.
	WG544086	Iron, total	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG543617	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG544150	Residue, Filterable (TDS) @180C	SM2540C	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			SM2540C	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			SM2540C	N1	See Case Narrative.
	WG544730	Sulfate	M300.0 - Ion Chromatography	DC	Sample required dilution. Non-target analyte exceeded calibration range.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Wood PLC

ACZ Project ID: L73586
Date Received: 06/01/2022 13:53
Received By:
Date Printed: 6/2/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
6968	1.1	<=6.0	15	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Wood PLC

ACZ Project ID:	L73586
Date Received:	06/01/2022 13:53
Received By:	
Date Printed:	6/2/2022

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L73586

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Natalie Christman-Lazarr
Company: Arizona Public Service Company
E-mail: Natalie.ChrismanLazarr@aps.com
Address: 400 N 5th St
Phoenix, AZ 85004
Telephone: 602-316-1324

Copy of Report to:

Name: Maren Henley (maren.henley@woodpl
Company: Wood Plc
E-mail: rebecca.weaver@woodplc.com &
Telephone: mari.wuollet@woodplc.com

Invoice to:

Name: Maren Henley
Company: Wood Plc
E-mail: apinvoice.us@woodplc.com
Address: 4600 E Washington St #600
Phoenix, AZ 85034
Telephone: 602-733-6000

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☒

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: _____ Sampler's Site Information State AZ Zip code 85034 Time Zone MST

*Sampler's Signature: _____

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: AMECAZ-CHOLLA

PO#:

Reporting state for compliance testing: Arizona

Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	BAP-Petroglyph	CR-1R-M-57A	FAP	M-54-M-60	M-63A	MW-72M-W-307R	W-123R	
CH-CCR-SS05-0522	05/27/22; 11:42	GW	6	☐	☐	☐	☐	☐	☒	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please ensure copy of report and EDDs are also sent to zachary.carroll@woodplc.com

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	05/31/22; 11:45	[signature]	6/1/22 1353

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L73586 Chain of Custod

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

June 30, 2022

Report to:
Natalie Chrisman Lazarr
Arizona Public Service Company
PO Box 355, MS 4915
Fruitland, NM 87416

cc: Zachary Carroll, Mari Wuollett

Bill to:
Cameron Corley
Arizona Public Service Company
PO Box 355, MS 4915
Fruitland, NM 87416

Project ID: 100619271
ACZ Project ID: L73587

Natalie Chrisman Lazarr:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 01, 2022. This project has been assigned to ACZ's project number, L73587. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L73587. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after July 30, 2022. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Arizona Public Service Company
Project ID: 100619271
Sample ID: FC-CCR-SS10-0522

ACZ Sample ID: ***L73587-01***
Date Sampled: *05/26/22 09:50*
Date Received: *06/01/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								06/08/22 16:30	mfm
Total Hot Plate Digestion	M200.2 ICP				*				06/09/22 16:16	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Boron, total	M200.7 ICP	20	10.5			mg/L	0.6	2	06/10/22 21:41	wtc
Cobalt, total	M200.8 ICP-MS	20	0.0225			mg/L	0.001	0.005	06/10/22 19:25	kja
Iron, total	M200.7 ICP	20	<1.2	U	*	mg/L	1.2	3	06/10/22 21:41	wtc
Magnesium, total	M200.7 ICP	20	1940			mg/L	4	20	06/10/22 21:41	wtc
Manganese, total	M200.7 ICP	20	<0.2	U		mg/L	0.2	1	06/10/22 21:41	wtc
Molybdenum, total	M200.8 ICP-MS	20	<0.004	U		mg/L	0.004	0.01	06/10/22 19:25	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Chloride	M300.0 - Ion Chromatography	500	1170	H	*	mg/L	200	1000	06/29/22 20:09	mad
Residue, Filterable (TDS) @180C	SM2540C	10	20400		*	mg/L	200	400	06/02/22 10:41	anc

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Reference

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

APS

ACZ Project ID: ***L73587***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Boron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	2		2.009	mg/L	100	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.09	0.09			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.066	0.066			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	.5005		.504	mg/L	101	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	.5005	U	.51	mg/L	102	70	130			
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	.5005	U	.505	mg/L	101	70	130	1	20	

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG541207													
WG541207ICV	ICV	04/29/22 2:41	WI220428-2	19.96		20.68	mg/L	104	90	110			
WG541207ICB	ICB	04/29/22 2:59				U	mg/L		-0.4	0.4			
WG545222													
WG545222LFB1	LFB	06/27/22 18:49	WI211112-6	30		31.53	mg/L	105	90	110			
L73576-04DUP	DUP	06/27/22 23:36			1.42	1.51	mg/L				6	20	RA
WG545222LFB2	LFB	06/28/22 3:29	WI211112-6	30		31.81	mg/L	106	90	110			
L73587-01AS	AS	06/29/22 20:27	WI211112-6	15000	1170	16606.07	mg/L	103	90	110			

Cobalt, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.05		.052697	mg/L	105	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.00015	0.00015			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.00011	0.00011			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.05005		.049553	mg/L	99	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.05005	.000204	.049	mg/L	97	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.05005	.000204	.049104	mg/L	98	70	130	0	20	

Iron, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	2		2.016	mg/L	101	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.18	0.18			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.132	0.132			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	1.0013		1.024	mg/L	102	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	1.0013	1.63	2.947	mg/L	132	70	130			MA
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	1.0013	1.63	2.807	mg/L	118	70	130	5	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	100		96.16	mg/L	96	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.6	0.6			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.44	0.44			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	49.99922		48.93	mg/L	98	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	49.99922	2.01	49.45	mg/L	95	70	130			
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	49.99922	2.01	48.79	mg/L	94	70	130	1	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic QC Summary

APS

ACZ Project ID: ***L73587***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Manganese, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544086													
WG544086ICV	ICV	06/10/22 19:50	II220602-2	2		1.952	mg/L	98	95	105			
WG544086ICB	ICB	06/10/22 19:57				U	mg/L		-0.03	0.03			
WG543966LRB	LRB	06/10/22 20:10				U	mg/L		-0.022	0.022			
WG543966LFB	LFB	06/10/22 20:13	II220602-7	.499		.5	mg/L	100	85	115			
L73578-12LFM	LFM	06/10/22 21:31	II220602-7	.499	.019	.52	mg/L	100	70	130			
L73578-12LFMD	LFMD	06/10/22 21:34	II220602-7	.499	.019	.511	mg/L	99	70	130	2	20	

Molybdenum, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544078													
WG544078ICV	ICV	06/10/22 18:53	MS220502-1	.02		.02022	mg/L	101	90	110			
WG544078ICB	ICB	06/10/22 18:55				U	mg/L		-0.0006	0.0006			
WG543915LRB	LRB	06/10/22 18:57				U	mg/L		-0.00044	0.00044			
WG543915LFB	LFB	06/10/22 18:59	MS220601-10	.05005		.04981	mg/L	100	85	115			
L73474-02LFM	LFM	06/10/22 19:06	MS220601-10	.05005	.00091	.05088	mg/L	100	70	130			
L73474-02LFMD	LFMD	06/10/22 19:08	MS220601-10	.05005	.00091	.05152	mg/L	101	70	130	1	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543422													
WG543422PBW	PBW	06/02/22 10:00				U	mg/L		-20	20			
WG543422LCSW	LCSW	06/02/22 10:02	PCN63843	1000		996	mg/L	100	80	120			
L73590-05DUP	DUP	06/02/22 11:00			50	44	mg/L				13	10	RA

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Arizona Public Service Company ACZ Project ID: ***L73587***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L73587-01	WG545222	Chloride	M300.0 - Ion Chromatography	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			M300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG544086	Iron, total	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG543422	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG543966	Total Hot Plate Digestion	M200.2 ICP	DH	Sample required dilution due to high TDS and/or EC value.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Arizona Public Service Company
100619271

ACZ Project ID: L73587
Date Received: 06/01/2022 13:53
Received By:
Date Printed: 6/27/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
6968	1.1	<=6.0	15	N/A

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Arizona Public Service Company
100619271

ACZ Project ID:	L73587
Date Received:	06/01/2022 13:53
Received By:	
Date Printed:	6/27/2022

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L73587

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Natalie Christman-Lazarr	Address: 400 N 5th St
Company: Arizona Public Service Company	Phoenix, AZ 85004
E-mail: Natalie.ChrismanLazarr@aps.com	Telephone: 602-316-1324

Copy of Report to:

Name: Maren Henley (maren.henley@woodplc	E-mail: rebecca.weaver@woodplc.com &
Company: Wood Plc	Telephone: mari.wuollet@woodplc.com

Invoice to:

Name: Maren Henley	Address: 4600 E Washington St #600
Company: Wood Plc	Phoenix, AZ 85034
E-mail: apinvoice.us@woodplc.com	Telephone: 602-733-6000

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☒

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: _____ Sampler's Site Information State AZ Zip code 85034 Time Zone PST

*Sampler's Signature: _____

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION ANALYSES REQUESTED (attach list or use quote #)

Quote #: AMECAZ-FOUR-CORNERS

PO#:

Reporting state for compliance testing: Arizona

Check box if samples include NRC licensed material? ☐

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	MW-03	MW-40R	MW-57(T)	MW-64-CWTP	MW-69-MW-71-MW-83	MW-87	SUMP-16	
				☐	☐	☐	☒	☐	☐	☐	☐
				☐	☐	☐	☒	☐	☐	☐	☐
				☐	☐	☐	☐	☒	☐	☐	☐
				☐	☐	☐	☐	☒	☐	☐	☐
				☐	☐	☐	☐	☒	☐	☐	☐
				☐	☒	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☒	☐	☐
				☒	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☒	☐	☐	☐	☐	☐
FC-CCR-SS10-0522	5/26/22; 09:50	GW	3	☐	☐	☐	☐	☐	☐	☒	☐

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	05/31/22, 11:45	[signature]	6/1/22 1353

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L73587 Chain of Custod

APPENDIX

D

STATISTICAL EVALUATION OF LITHIUM AND SELENIUM MULTIUNIT 1 DATA GWPS CALCULATION AND STATISTICAL COMPARISONS

Technical Memorandum

To: Maren Henley, PE
Mari Wuollet
Wood Environment & Infrastructure Solutions, Inc.

From: Carla Landrum, PhD
Geoscience Consulting Strategies LLC

Date: August 16, 2022

Subject: **Statistical Evaluation of Lithium and Selenium Multiunit 1 Data**
Preliminary GWPS Calculation and Statistical Comparisons
Arizona Public Service Company Four Corners Power Plant– Fruitland, New Mexico

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) documents the statistical evaluation of lithium and selenium data collected from the Multiunit 1 (Multiunit) groundwater monitoring network located at the Arizona Public Service Company (APS) Four Corners Power Plant (FCPP) in Fruitland, New Mexico. This statistical evaluation is completed by Geoscience Consulting Strategies LLC in accordance with the FCPP Statistical Data Analysis Work Plan (SDAWP) and the Coal Combustion Residuals (CCR) Rule (Federal Register, 2018; Wood, 2020).

The Multiunit is in corrective action under the CCR Rule in response to statistically significant levels (SSLs) of molybdenum and cobalt concentrations over their respective Groundwater Protection Standards (GWPSs) (Wood, 2018). While corrective action for molybdenum and cobalt in groundwater downgradient of the Multiunit proceeds, assessment monitoring of groundwater has continued on a semiannual basis to both support the evaluation of known impacts and identify potential new constituents of concern (COCs) present at SSLs exceeding GWPSs. To that end, review of Multiunit assessment monitoring data collected since the original Appendix IV statistical evaluation conducted in 2018 indicates potentially elevated levels of lithium and selenium in groundwater downgradient of the Multiunit (Wood, 2022).

The objective of this Tech Memo is to document an update of the 2018 statistical evaluation to understand whether there is sufficient statistical evidence to add lithium and selenium as COCs at the Multiunit under 40 CFR §257.95(h).

The following sections discuss the Exploratory Data Analysis (EDA) procedures and the preliminary lithium and selenium assessment monitoring statistical calculations for Multiunit monitoring wells with adequate sample counts to complete the subject analysis, including two background wells (MW-49 and MW-74) and each of the monitoring system downgradient boundary compliance wells (MW-07, MW-08, WW-61 and MW-75).

2.0 DATA INPUTS

The subject analysis was completed using ProUCL software. The sampling period for the subject analysis ranges from November 2015 to November 2021. The number of sample events for Multiunit compliance monitoring wells ranges between 19 and 22.

3.0 METHODS

Exploratory Data Analysis (EDA) consist of time series and trend analysis, outlier analysis, statistical distribution or "goodness of fit" statistics, and summary statistics. EDA results fed into the update of GWPSs for evaluated constituents and selecting the correct statistical method for comparing groundwater compliance sample data to this GWPS, per 40 CFR §257.95(h). For selenium, the GWPS selection constitutes either the statistically calculated Background Threshold Value (BTV) or the US EPA's promulgated Maximum Contaminant Level (MCL) for Drinking Water, whichever value is highest. For lithium, the GWPS selection constitutes either the statistically calculated Background Threshold Value (BTV) or the risk-based alternative GWPS identified for constituents without MCLs, whichever value is highest. The FCPP SDAWP and the 2018 Technical Memorandum for the FCPP MultiUnit (Wood, 2018) provide detailed information regarding EDA methods and calculating the upper tolerance limit (UTL) and the upper confidence limit (UCL).

Assessment monitoring, unlike detection monitoring, does not compare individual sample observations to a GWPS. Rather, for any given constituent, the entire sample population within a single compliance well is taken into consideration when making a comparison to its respective GWPS. In this case, the average lithium or selenium concentration, consisting of the mean or median, is taken into consideration. The mean or median represents the "central tendency" of sample data. Since the groundwater monitoring program cannot sample everywhere all the time, there is uncertainty as to where the true central tendency sits for constituent concentrations within any given compliance well. As such, it is adequate to establish a confidence limit around the sample population's central tendency with an acceptable margin of error, typically 5%, which corresponds to a 95% confidence level.

Corrective action implies a Multiunit leak occurred and a groundwater remedy must be implemented. The importance of statistical evaluations during corrective action is they provide an objective assessment of remedy effectiveness and cleanup status. The UCL is of interest when a CCR unit is in corrective action because it represents the upper bound of the range of values that honor the true central tendency (i.e., mean or median) of groundwater constituent concentrations beneath the Multiunit. Because we cannot define exactly where the central tendency sits within this range, we honor the upper bound of this range and compare it to the GWPS to assess statistical compliance. If the upper confidence limit falls below its respective GWPS, then there is enough statistical evidence to conclude the average concentration (or median concentration) falls below the GWPS.

It is important to remember the confidence interval reflects the central tendency of the compliance well data and, therefore, a single sample event will likely not transition the CCR unit in or out of compliance. As such, the CCR owner or operator should expect several rounds of sampling to decipher the adequacy of remedy implementation and cleanup status.

4.0 RESULTS

Selenium GWPS Update. The 2018 Technical Memorandum for the FCPP Multiunit (Wood, 2018) identified spatial heterogeneity in background wells MW-49 and MW-74 for selenium. Spatial heterogeneity means the two background wells are sampling a range of selenium concentrations that are different from one another, where each represents a unique statistical population. The 2018 Technical Memorandum specifically calls out elevated selenium concentrations in MW-74. The cause to the spatial heterogeneity is unknown, but the box and whisker plots from this analysis confirms that spatial heterogeneity exists between the two background wells for selenium. Based on these results, the recommendation made on page 8 in the 2018 Technical Memorandum (Wood, 2018), stating "reference to the conceptual site model and professional judgement/interpretation are necessary to confirm adequacy and representativeness of background well designations for Multiunit 1.", still stands. Factors such as groundwater geochemistry, groundwater flow regimes and nearby alternative sources need consideration when selecting an adequate and representative background well.

To help facilitate the selection of an adequate and representative background well for selenium, the two background wells were analyzed separately. The selenium BTV for MW-49 represents a non-parametric UTL equal to 0.012 milligrams per liter (mg/L). This value is less than the respective US EPA promulgated MCL for selenium, equal to 0.05 mg/L, resulting in the MCL serving as the GWPS for selenium at this background location. The selenium BTV for MW-74 represents a parametric UTL equal to 0.19 ppm which is higher than the promulgated MCL, resulting in the BTV serving as the GWPS for selenium at this background location. Note that the MW-74 BTV is one order of magnitude higher than the promulgated MCL and the calculated selenium BTV for MW-49. The false negative rate for declaring a selenium SSI at the Multiunit using MW-74 as a background well is high, meaning the groundwater monitoring program will not be robust in detecting and declaring a release from the CCR Unit using MW-74 as a background well for this constituent; this needs consideration when selecting an adequate and representative background well.

Lithium GWPS Selection. Spatial heterogeneity also exists for lithium between background sampling locations for the Multiunit. The box and whisker plots and Wilcoxon-Mann-Whitney results from this analysis confirm that spatial heterogeneity exists between the two background wells for lithium. The spatial heterogeneity is not as stark for lithium in comparison to selenium.

The lithium BTV for MW-49 reflects a parametric UTL, equal to 1.53 ppm, that was calculated around a statistically significant ($p<0.05$) decreasing trend. The BTV for MW-49 is higher than the risk-based alternative GWPS, equal to 0.04 ppm, for this constituent. Consequently, the BTV serves as the lithium GWPS for MW-49. The lithium BTV for MW-74 reflects a non-parametric UTL equal to 1.7 ppm, which is higher than the risk-based-alternative GWPS and will serve as the GWPS for this background well. There is a statistically significant increasing trend for lithium concentrations at MW-74.

Compliance Well UCLs. Either a parametric UCL or non-parametric UCL was calculated for lithium and selenium in each compliance well, depending on the goodness of fit statistics and other supporting EDA results. If a statistically significant ($p<0.05$) trend was present for the parametric case, then the UCL was calculated in account of the trend. Table 1 below provides a summary of the selenium UCLs for the compliance wells shown.

Table 1.

Compliance Well	Type of UCL	Upper 95% Confidence Limit (mg/L)
MW-49 Lithium GWPS (mg/L)		**1.53**
MW-74 Lithium GWPS (mg/L)		**1.7**
MW-7 Lithium	Non-Parametric	0.9
MW-8 Lithium	Non-Parametric	1.2
MW-61 Lithium	Non-Parametric	0.4
MW-75 Lithium	Non-Parametric	0.44
MW-49 Selenium GWPS (mg/L)		**0.05**
MW-74 Selenium GWPS (mg/L)		**0.19**
MW-7 Selenium	Parametric	0.0095
MW-8 Selenium	Non-Parametric	0.0052
MW-61 Selenium	Non-Parametric	0.002
MW-75 Selenium	Non-Parametric	0.0037

Statistically significant ($p<0.05$) increasing temporal trends are present for and selenium at MW-75. There is a statistically significant ($p<0.05$) decreasing temporal trend for selenium at MW-8.

5.0 SUMMARY

This Tech Memo presents calculations to assess lithium and selenium compliance at the Multiunit for the sampling period spanning November 2015 to November 2021.

The recommendations put forth in the 2018 Technical Memorandum for the FCPP Multiunit (Wood, 2018) stand for both lithium and selenium. This analysis puts forth a proposed GWPS for each constituent at each background location to help select an appropriate background well, as necessary. Because the Multiunit is in corrective action, due diligence is necessary in selecting an appropriate background well, especially if the background well is suspect.

To best match downgradient compliance wells to a background well, the background-compliance well pairing is valid when the two sampling locations sample the same groundwater. Establishing the background-compliance well pairing will require reference to the conceptual site model (e.g., site hydrogeology, site geochemistry, site lithology, etc.) and use of professional judgement.

Because the Multiunit is in corrective action, intrawell statistical comparisons should be a last resort in establishing a BTV. To complete intrawell statistical comparisons, it is critical to: 1) timestamp or date the release at the Multiunit and 2) have sufficient sample data in each compliance well (that predates the release) to calculate the intrawell BTVs.

6.0 REFERENCES

Federal Register, 2018. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments to the National Minimum Criteria (Phase One, Part One) effective August 29, 2018*.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2018. *CCR Groundwater Assessment Monitoring Statistical Analysis and Results for Multiunit 1*. Arizona Public Service Four Corners Power Plan – Fruitland, New Mexico. October 2018.

Wood, 2020. *Statistical Data Analysis Work Plan. Coal Combustion Residual Rule Groundwater Monitoring System Compliance*, Four Corners Power Plan, Fruitland, New Mexico. Prepared for Arizona Public Service. June 2020.

Wood, 2022. *Annual Groundwater and Corrective Action Report for 2021. Coal Combustion Residual Rule Groundwater Monitoring System Compliance*, Four Corners Power Plan, Fruitland, New Mexico. January 2022.

APPENDIX

E

URS WELL PUMP INSTALLATION COMPLETION REPORT

ARIZONA PUBLIC SERVICE COMPANY (APS)

UPPER RETENTION SUMP WELL PUMP INSTALLATION COMPLETION REPORT

FOUR CORNERS POWER PLANT
FRUITLAND, NEW MEXICO

DECEMBER 20, 2022

UPPER RETENTION SUMP (URS) WELL PUMP INSTALLATION COMPLETION REPORT

FOUR CORNERS POWER PLANT
FRUITLAND, NEW MEXICO

APS

FINAL V4

PROJECT NO.: 14.2018.2068
DATE: DECEMBER 20, 2022

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1 PROJECT SUMMARY

1.1 PURPOSE

Arizona Public Service Company (APS) is the largest electric utility in Arizona, and the majority owner of and operator of the Four Corners Power Plant (FCPP or the Site) located near Fruitland, New Mexico. APS is conducting interim corrective action activities to support compliance with coal combustion residuals (CCR) corrective action requirements detailed in 40 Code of Federal Regulations (CFR) Part 257 (herein referred to as the CCR Rule) (Federal Register, 2020).

This document provides a final completion description of the system constructed at the Upper Retention Sump (URS) to equip two recently installed (2019) extraction wells near the URS with pumps and piping to facilitate extraction of water from this area, as part of their ongoing groundwater containment and monitoring.

1.2 FACILITY AND CCR UNIT DESCRIPTION

FCPP is an operating power plant owned by APS and four other utilities. The plant burns low sulfur coal in two electrical generating units (Units 4 and 5) and has a net generating capacity of 1,540 megawatts. FCPP formerly had five generating units and a capacity of 2,040 megawatts; Units 1, 2, and 3 were retired in December 2013 and decommissioned between 2014 and 2016. Coal burned at the plant is generally sourced from the nearby Navajo Mine (Navajo Transitional Energy Company, 2016).

The plant and associated infrastructure are located approximately 20 miles southwest of the city of Farmington in the Colorado Plateau physiographic province of northwestern New Mexico. The land on which the plant resides is leased from the Navajo Nation and is primarily located in Section 36, Township 29 North, and Range 16 West of the northwest quadrant of the New Mexico Principal Meridian and Base Line.

Plant infrastructure includes four single CCR units and one CCR multiunit (referred to as Multiunit 1) which are located in the main plant area and to the west of the plant within the FCPP lease boundary (also known as the disposal area). As part of its on-site operations, APS has installed monitoring wells, extraction wells, and sumps throughout the property to catch potentially contaminated groundwater and direct it to onsite treatment ponds, avoiding release to the nearby Chaco Wash.

The URS is an CCR unit located in the main plant area and is currently being assessed as part of the corrective action requirements. Wells were recently installed within the main plant site near the former URS as part of a corrective measures (CM) study to address groundwater impacts resulting from the URS. The CM well installation project constructed four wells, CM-01 through CM-04 in the congested area around the former URS and controlled-access regions within the plant (Wood, 2021). Wells CM-01 and CM-02 (also known as URS-1 and URS-2, respectively) are located downgradient of the former URS and CCR monitoring wells MW-66 and MW-67, while CM-03 and CM-04 are located within the footprint of the URS, directly downgradient of MW-68 and MW-69. The boring logs and well construction information for these wells is included in Appendix A.

APS has contracted with WSP (formerly Wood Environment and Infrastructure Solutions, Inc.) for design services to complete two extraction wells with well pumps, flow regulators, flow meters, valves, piping, and all required electrical and instrumentation for each of the wells. The extracted water will be pumped into a common header high density polyethylene (HDPE) line and discharged into an existing drainage ditch currently also used for blow-down operations that gravity discharges into Sump 10.

1.3 CONSTRUCTION OVERSIGHT

The URS well pumps and piping system for CM-01 & CM-02 were installed by West States Energy Contractors, Inc. (West States). Sean Hill (West States) was the project manager during the installation process and Terry Stewart (Mountain West Consulting) provided onsite construction management. West States documented their activities with Construction Reports included in Appendix B.

WSP personnel visited the site twice during the construction phases. On October 18, 2021, WSP Instrument and Controls Technician Bob Kozojet inspected the construction site. During this visit WSP reviewed the location of the electrical and piping trenching. On November 19th, 2021, WSP Engineer Rebecca Weaver, PE visited the site to document the pump equipment and heat trace after being installed. See construction photo log (Appendix C) for more details.

2 WELL COMPLETION

2.1 CONSTRUCTION DETAILS

Two new extraction wells (CM-01/URS-01 and CM-02/URS-02) were drilled in December 2019 by Cascade Drilling utilizing a truck mounted sonic drill rig. The well locations are chosen based on water levels, pumping rates, and contaminant levels found in the existing monitoring wells. Detailed well construction and lithology details are described in Wood, 2021 including a description of the aquifer testing completed on each well. A summary of the existing well construction details that were used as the basis for the design of the pump and piping systems are outlined below in Table 2.1.

Table 2.1 Well Design Parameters

Well	Well Depth (ft bgs)	Top of Casing Elevation (ft amsl)	Ground Surface Elevation (ft amsl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (ft)	Top Screen Elevation (ft amsl)	Bottom Screen Elevation (ft amsl)	Bottom Borehole Elevation (ft amsl)
CM-01/ URS-01	35	5,353.42	5,351.19	20	30	10	5331.19	5,321.19	5314.19
CM-02/ URS-02	35	5348.50	5,346.54	20	30	10	5,326.54	5316.54	5309.54

Notes: Vertical datum is North American Vertical Datum 1988, horizontal coordinate system is NM West State Plane (ft), North American Datum 1983
Notes: bgs- below ground surface, ft – feet/foot, amsl – above mean sea level

Drilling and well construction was supervised by a Wood field geologist, and continuous formation samples were logged at 2.5-ft depth intervals using the Unified Soil Classification System. Well logs are included in Appendix A. The lithology of each well is summarized below and the lithologies encountered during drilling include alluvium (sandy silt and sandy clay), shale, mudstone, siltstone, limestone, and coal. With the exception of the coal deposits, the bedrock lithologies encountered are typical of the lower portions of the Pictured Cliffs Sandstone.

- CM-01 – Dark brown sandy silt and clay was encountered from 5 to 20 ft bgs. 2 ft of mudstone with interbedded gypsum was encountered at 23 ft bgs. Dark grey sandy clay with mudstone and siltstone was encountered from 23 to 28 and 32-37 ft bgs. Blue to grey fossiliferous limestone and shale was found at 28 to 32 ft bgs.
- CM-02 – Dark brown sandy silt, shale, and clay was encountered from 5 to 25 ft bgs. Blue to gray fossiliferous limestone and shale were found at 25 to 30 ft bgs. Olive to grey mudstone and siltstone were encountered from 30 to 37 ft bgs.

Water and aquifer details are summarized in the Table 2-2 below.

Table 2.2 Water Levels and Aquifer Parameters

Well	Well Dia. (in)	Water Level (ft bgs)	Water Elev. (ft amsl)	Saturated Thickness (ft)	Constant Test rate (gpm)	Average Transmissivity (ft2/d)	Average Hydraulic Conductivity (ft/d)
CM-01/ URS-01	6	22.3	5328.89	6.6	2.3	165.9	25
CM-02/ URS-02	6	17.6	5328.94	6.7	4.0	408.3	60.5

Notes: D – DAY, IN – INCHES, FT – FEET/FOOT, AMSL – ABOVE MEAN SEA LEVEL, GPM – GALLONS PER MINUTE

3 CIVIL AND MECHANICAL

3.1 WELL PUMP INSTALLATION

CM-01 and CM-02 are equipped with a submersible pump with a flow regulator valve, pressure transducer/transmitter for level control and measurement in the well, piping, valves, flow meter, sampling/flow measuring port, and heat tracing with insulation on the above-grade piping. The small amount of exposed HDPE piping has a blanket layer between heat trace and piping to protect the pipe from excessive heat. The wells pumps are installed with an after-market shroud constructed from stainless steel.

Well CM-01 is equipped with a Grundfos 5SQE05-90 pump, with a ½-hp motor capable of operating at an average of 5 gpm at a total dynamic head (TDH) of 100 feet. The 5SQE pump was installed with an after-market shroud constructed by West States. Well CM-01's pump was set at a depth of approximately 31'-0" below grade with the shroud intake (bottom of pump) located 2'-0" above the bottom of the well. This well pump has 1" stainless steel column piping that transitions to ½" stainless steel piping above grade. The anticipated pumping rates for this new well are between 1 and 2 gpm. The flow regulator flow rate was installed at 1.5 gpm from the ranges: 1.0, 1.5, 2.0 gpm. The goal is for the flowrate to be selected that allows nearly continuous pumping; however, these pumps will also operate as fill and draw, as water levels and recovery rates dictate.

Well CM-02 is equipped with a Grundfos 5SQE05-90 pump, with a ½-hp motor capable of operating at an average of 5 gpm at a total dynamic head (TDH) of 100 feet. The 5SQE pump was installed with a shroud. Well CM-02's pump was set at a depth of approximately 31'-0" below grade with the shroud intake (bottom of pump) located 2'-0" above the bottom of the well. The shroud has an outer diameter (OD) of 4 7/16 inches. This well pump has 1" stainless steel column piping that transitions to ½" stainless steel piping above grade. The anticipated pumping rates for this new well are between 3.5 and 4.5 gpm. The flow regulator flow rate was installed at 4.0 gpm from the ranges: 3.5, 4.0, 4.5 gpm. The goal is for the flowrate to be selected that allows nearly continuous pumping; however, these pumps will also operate as fill and draw, as water levels and recovery rates dictate.

The As-builts are included in Appendix D.

3.2 PIPING AND APPURTENANCES

Each well is installed with piping, valves, flow meter and controls to provide a completely functioning system capable of operating automatically or manually. The wells will operate independently of each other, so flow rates will be dependent upon the number of wells operating, as well as water levels, and pump speed setpoints.

Each well is equipped with the following equipment and appurtenances located above the well, except for the level transducer, which will be installed in the well:

- Flow regulator
- Pressure transducer/transmitter for well level control
- Check valve
- Union
- Magnetic flow meter
- 3-way ball valve for sampling and manual flow measurement
- Ball valve for isolation
- Air/vacuum valve with isolation ball valve
- Heat trace and insulation

The outer well conductor casings on each well were modified by cutting the existing cap and welding a slip-on flange to the well casing. A custom blind flange was provided with threaded holes, open holes, and holes with

short, welded carbon steel pipe nipples to accommodate the piping, cables, and equipment. A 1" threaded hole allows for attachment of a 1" well vent to both wells. One ½" and two 1" carbon steel pipe nipples are welded to the blind flange to allow access for the pump power cables, and the sounding tube and the pressure transmitter, respectively. The 1-inch sounding tube allows for manual water level measurements. The well level readout from the pressure transmitter is accessible from an indicator mounted on the control panel. The readout is programmed to indicate the water level in feet BGS.

The ½" Rosemount magnetic flow meter can measure instantaneous flow rate and provides a totalizer for recording accumulated flows. The air/vacuum release valve is installed at the high point in the piping to avoid air lock of the flow in the pipeline. The three-way ball valve can be used for sampling the water, or for manual flow measurement through timed water volume measurements. The 3-way ball valve either allows flow to the common pipeline, or through the sampling port. All above-ground piping is insulated and provided with heat tracing to ensure the water will not freeze in the piping.

Each well discharge pipe goes below grade after the valves and meter, then connects to a common header pipeline that runs from CM-02 to CM-01, then to the existing blow-down trench that flows by gravity to Sump 10. The common pipeline comes above grade at the fence before crossing through the fence and running along the sloped concrete to the discharge trench. The below-ground pipeline runs approximately 80 feet.

The common pipeline connecting the two wells consists of 1-inch HDPE piping that is buried with a minimum of 3 feet of cover to avoid freezing, since the frost depth in this area can extend approximately 1.5' below grade. The HDPE pipe is DR-11 manufactured with resin PE4710 material.

The discharge pipeline is installed maintaining a minimum of 3' of cover, while loosely following the site grading. A combination air and vacuum release valves is installed at the high point once coming above grade prior to running down the sloped concrete to the trench. The air release valve allows automatic removal of air from the system to avoid potential air lock in the piping. the side of the pipeline.

The As-builts are included in Appendix D.

4 ELECTRICAL

4.1

Each well is equipped with a control panel that houses the electrical components for the instruments, hour meter (pump run time), and hand-off-auto (HOA) switch.

The power for the two new wells comes from an existing lighting panel inside the building located just to the north of the project. Each power connection goes into a fusible disconnection switch for each well. Each switch feeds one control panel. The control panels are designed similarly. The control panels contain relays to control the pump on and off setpoints and an externally mounted indicator, both linked to the pressure transmitter.

Each control panel also provides power for the heat trace cable and thermostat. The heat trace cable is a Raychem brand with 120V supply and 3 watts per foot. It is self-regulating with indicating lights and is controlled by an ambient sensing thermostat mounted in a National Electrical Manufacturers Association (NEMA) 4 enclosure.

BIBLIOGRAPHY

- Federal Register, 2020. 40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule promulgated at 80 FR 21468 on April 17, 2015 with amendments issued through November 12, 2020.
- Navajo Transitional Energy Company, 2016. Webpage http://www.navajo-tec.com/ accessed in September 2016.
- Wood Environment and Infrastructure, Inc. (Wood), 2021. Well Completion Report Corrective Measures Pre-design Wells, Upper Retention Sump. Four Corners Power Plant, Fruitland, New Mexico. Prepared on behalf of APS. January 31, 2021.

APPENDIX

A WELL BORING LOGS

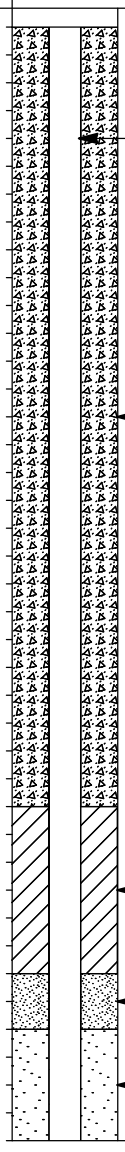
wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: CM-01

PROJECT:	APS Four Corners			**PROJECT LOCATION:**	APS Four Corners Plant, Fruitland, NM		
PROJECT MANAGER:	Maren Henley			**PROJECT FEATURE:**	Upper Retention Sump		
LOGGED BY:	I. Torres			**WOOD PROJECT #:**	14-2018-2068		
DRILLER:	J. Vankirk			**ADWR REG. #:**	N/A		
DRILLER FIRM:	Cascade Drilling			**COORDINATES:**	N2070334.792, E2534111.297		
RIG I.D.:	N/A			**COORDINATE SYS:**	New Mexico West State Plane NAD83		
RIG TYPE:	Sonic			**SURFACE ELEV. (FT):**	5351.19		
BORING TYPE:	N/A	**BORING DIA.:**	10"	**MEAS. PT. ELEV (FT):**	5353.42		
ORIENTATION:	90°			**VERTICAL DATUM:**	NAVD88		
HAMMER TYPE:	N/A			**START DATE:**	12/02/2019	**START TIME:**	9:45
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:			N/A	**COMPLETION DATE:**	12/09/19	**COMPLETION TIME:**	13:20

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5351.2	0					Hydro-excavated from 0 to 5'
5346.2	5				CL	**SANDY CLAY,** some calcium carbonate nodules, high HCl reaction, medium plasticity, very dark gray to dark yellowish brown, low to medium dry strength, no odors, moist
					ML	**SANDY SILT,** no to high HCl reaction, no to low plasticity, light yellowish brown to yellowish brown, low to medium dry strength, no odors, moist
5341.2	10					note: from 11' to 15', trace gypsum nodules/filaments
5336.2	15					**SILTSTONE,** weathered and interbedded with sandy silt, moist
					CL	**SANDY CLAY,** very fine to fine grained, very thinly laminated from 0.5 mm to 6 mm thick, no HCl reaction, medium to high plasticity, very dark gray to dark yellowish brown, low to medium dry strength, no odors, moist
						note: gypsum nodules at 18'
5331.2	20					



WELL INFORMATION
(Construction Details and/or Drilling Remarks)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	20.3	16:30	12/14/2019
▼			
▼			
▼			

METHOD _____

(Continued Next Page)

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							N/A

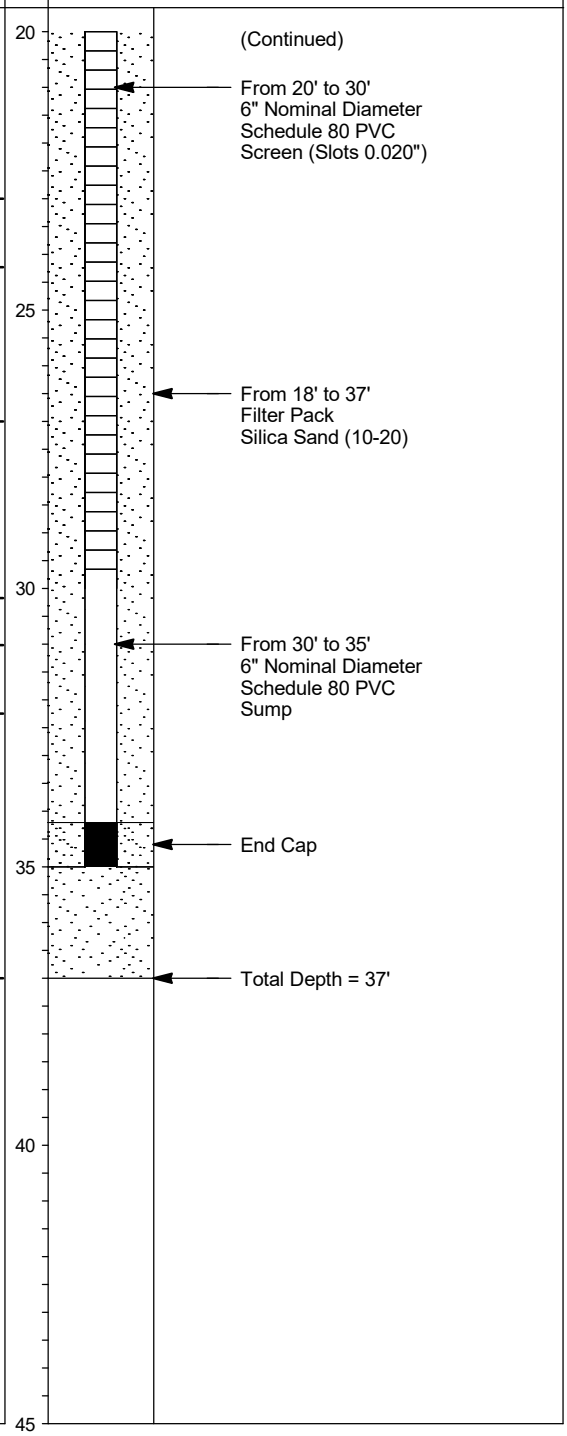
wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: CM-01

PROJECT:	APS Four Corners	**PROJECT LOCATION:**	APS Four Corners Plant, Fruitland, NM
ADWR REG. #:	N/A	**PROJECT FEATURE:**	Upper Retention Sump

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5331.2	20				CL	**SANDY CLAY**, continued
						MUDSTONE, mudstone with inclusion of gypsum. medium to high plasticity, moist
					CL	**SANDY CLAY,** very fine to fine grained, very thinly laminated from 0.5mm to 6mm thick, no HCl reaction, medium to high plasticity, very dark gray to dark yellowish brown, medium to high dry strength, no odors, moist
5326.2	25					
						MUDSTONE AND SITLSTONE, interbedded mudstone and siltstone, slow HCl reaction, siltstone has no to low plasticity and medium dry strength, mudstone has medium to high plasticity and low dry strength, mudstone and siltstone are dark gray and dark yellowish brown, moist
5321.2	30					**LIMESTONE,** fossiliferous, blue to gray colored, very fast HCl reaction, hard, dry
						SHALE, reddish to dull olive brown colored sandy shale, no to low plasticity, slow HCl reaction, no odors, hard, dry
						MUDSTONE AND SITLSTONE, interbedded mudstone and siltstone, slow HCl reaction, siltstone has no to low plasticity and medium dry strength, mudstone has medium to high plasticity and low dry strength, very dark gray to yellow colored, no odors, dry
5316.2	35					
						Total Depth = 37'
5311.2	40					
5306.2	45					



GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	20.3	16:30	12/14/2019
▼			
▼			
▼			

METHOD _____

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							N/A

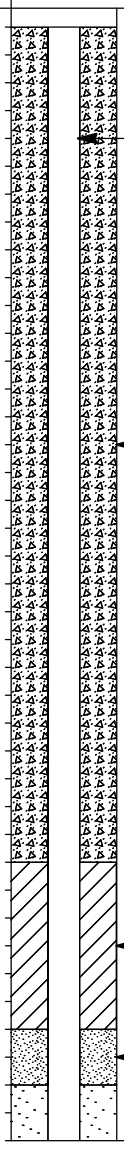
wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: CM-02

PROJECT:	APS Four Corners			**PROJECT LOCATION:**	APS Four Corners Plant, Fruitland, NM		
PROJECT MANAGER:	Maren Henley			**PROJECT FEATURE:**	Upper Retention Sump		
LOGGED BY:	I. Torres			**WOOD PROJECT #:**	14-2018-2068		
DRILLER:	J. Vankirk			**ADWR REG. #:**	N/A		
DRILLER FIRM:	Cascade Drilling			**COORDINATES:**	N2070366.138, E2534157.054		
RIG I.D.:	N/A			**COORDINATE SYS:**	New Mexico West State Plane NAD83		
RIG TYPE:	Sonic			**SURFACE ELEV. (FT):**	5346.54		
BORING TYPE:	N/A	**BORING DIA.:**	10"	**MEAS. PT. ELEV (FT):**	5348.5		
ORIENTATION:	90°			**VERTICAL DATUM:**	NAVD88		
HAMMER TYPE:	N/A			**START DATE:**	12/02/2019	**START TIME:**	11:15
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:			N/A	**COMPLETION DATE:**	12/08/19	**COMPLETION TIME:**	13:30

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5346.5	0					Hydro-excavated from 0 to 6'
5341.5	5					
					ML	**SANDY SILT,** no to low HCl reaction, low to high plasticity, dark grayish brown to yellowish brown to strong brown, moist, low to high dry strength, no odors, (wet from 6' to 7' due to hydro-excavation), trace amounts of subrounded to subangular gravels to cobbles between 0.5 and 8 cm diameter from 6' to 6.5'
5336.5	10					
5331.5	15					**SANDY SHALE,** friable, thinly laminated sandy shale, medium to high plasticity
						note: interbedded lense of very fine grained, calcareous sandy shale, high HCl reaction, no plasticity, dull yellowish brown, very high dry strength (breaks with 3lb mini-sledge) from 19' to 20'
5326.5	20					



WELL INFORMATION
(Construction Details and/or Drilling Remarks)

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
17.0	08:30	12/172019

METHOD _____

(Continued Next Page)

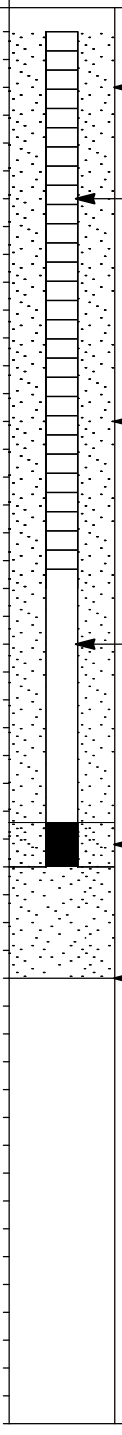
aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: CM-02

PROJECT:	APS Four Corners	**PROJECT LOCATION:**	APS Four Corners Plant, Fruitland, NM
ADWR REG. #:	N/A	**PROJECT FEATURE:**	Upper Retention Sump

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5326.5	20					**SANDY SHALE,** continued
					CL	**SANDY CLAY,** no HCl reaction, medium to high plasticity, very dark gray to dark yellowish brown, low to medium dry strength, no odors, moist
5321.5	25					**LIMESTONE,** fossiliferous, blue to gray colored, very fast HCl reaction, hard, dry
						SHALE, very fine grained to fine grained, very thinly laminated upto 0.5mm thick, thickly bedded upto 30cm, reddish to olive brown colored sandy shale, no to low plasticity, slow HCl reaction, no odors, hard, dry
5316.5	30					**MUDSTONE AND SILTSTONE,** olive to very dark gray and yellow brown colored interbedded mudstone and siltstone, slow HCl reaction, siltstone has no to low plasticity and medium dry strength, mudstone has medium to high plasticity and low dry strength, no odors, dry
5311.5	35					
						Total Depth = 37'
5306.5	40					
5301.5	45					



Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
20	(Continued)
	From 19' to 37' Filter Pack Silica Sand (10-20)
	From 20' to 30' 6" Nominal Diameter Schedule 80 PVC Screen (Slots 0.020")
25	
	From 19' to 37' Filter Pack Silica Sand (10-20)
30	
	From 30' to 35' 6" Nominal Diameter Schedule 80 PVC Sump
	End Cap
35	
	Total Depth = 37'
40	
45	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	17.0	08:30	12/172019
▼			
▼			
▼			

METHOD _____

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

APPENDIX

B CONSTRUCTION REPORTS

Daily Update

Project Name: Wells 10/14/21

Project Phase:	**Project Name : Wells**

Project Status Summary: __X_ ON TRACK ____ON HOLD ____ DELAYED

<u>Tasks currently working:</u>

- Riley Completed Trenching and additional trenching for Electrical
- Installing poly tubing into trench
- Air testing the poly line (Tubing)
- Barricade has been set up for Hazard markers
- Barricade being check and daily check ups as well

Throughout the work day employees practice social distance along with proper PPE.

JSA was also filled out in the work area, any barricade was removed and taken down daily.

Inspection on all equip and machinery, including buggy's, vehicles.

"There are challenges, no successful story was ever gained without Challenges!"

"WE ARE WEST STATES"

SAFETY ALWAYS

Daily Update

Project Name: Wells 10/14/21

Daily Update
11/02/21

Project Phase: **Project Name: URS Wells**

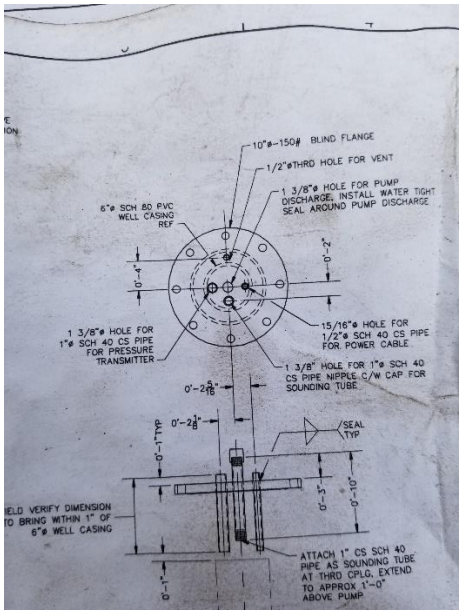
Project Status Summary: __X_ ON TRACK ____ON HOLD ____ DELAYED

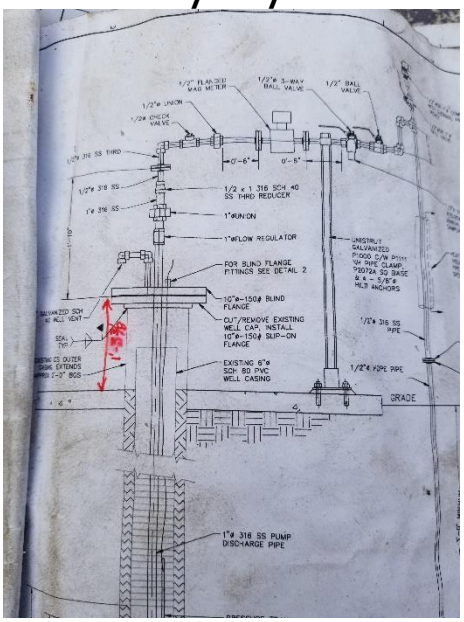
Tasks currently working:

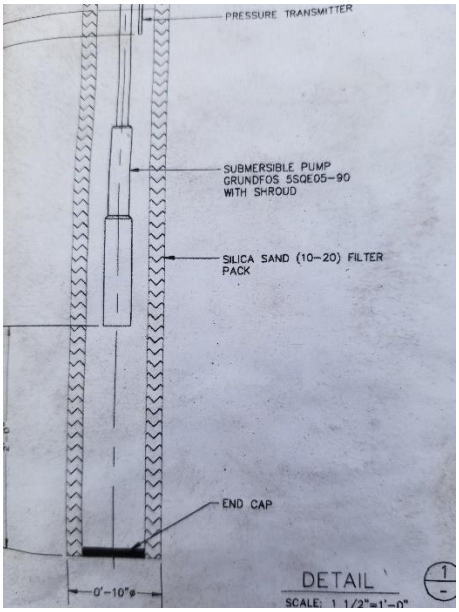
1. **Installing Pump onto the discharge line 1" carbon piping**
2. **(2) piping connected to the length of the Wells**
3. **Electrical line connected to the Pump fasten to the discharge line and will connect to the Power Panel**
4. **Forklift used to lift and guide the (2) 36' of carbon piping into the Well piping**
5. **East/ West Wells piping installed with blind flange**
6. **Connected the top portion of both Wells East/ West Wells**
7. **Backfill electrical and Discharge piping (IN-PROGRESS)**

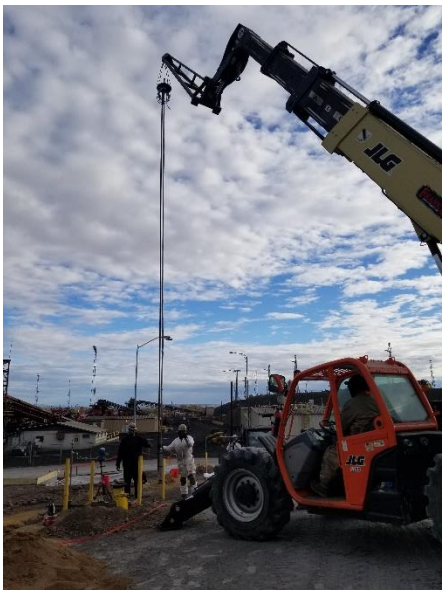
Daily Update

11/02/21









Daily Update

11/02/21

Throughout the work day employees practice social distance along with proper PPE.

JSA was also filled out in the work area, any barricade was removed and taken down daily.

Inspection on all equip and machinery, including buggy's, vehicles.

"There are challenges, no successful story was ever gained without Challenges!"

"WE ARE WEST STATES"

SAFETY ALWAYS

Daily Update
11/02/21

APPENDIX

C CONSTRUCTION PHOTOGRAPHS

Figure 1: Pipe discharge trenching with CM-02 in the background.

Figure 2: pump discharge and pipe supports to drainage trench.

Figure 3: Electrical Entry Conduit trench

Figure 4: Conduit Running on back of guard Rail

Figure 5: Well pump prior in installation at site.

Figure 6: installing AVR at CM-02

Figure 7: level Indicator installed at CM-01

Figure 8: Flow meter installed at CM-01.

Figure 9: View of CM-01 with equipment installed.

Figure 10 : View of CM-02 with equipment installed.

Figure 11: View of CM-01 with heat trace and insulation jacket installed.

Figure 12: View of CM-01 control box font panel.

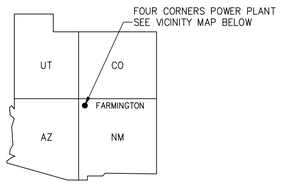
Figure 13: View of CM-02 with Heat trace and insulation jacket installed.

Figure 14: View of CM-02 Control box front panel.

APPENDIX

D RECORD DRAWINGS

NORTH



VICINITY MAP
N.T.S.

URS WELLS PUMP INSTALLATION
FOR THE
FOUR CORNERS GENERATING STATION
ARIZONA PUBLIC SERVICE COMPANY
LOCATED IN
FRUITLAND, STATE OF NEW MEXICO

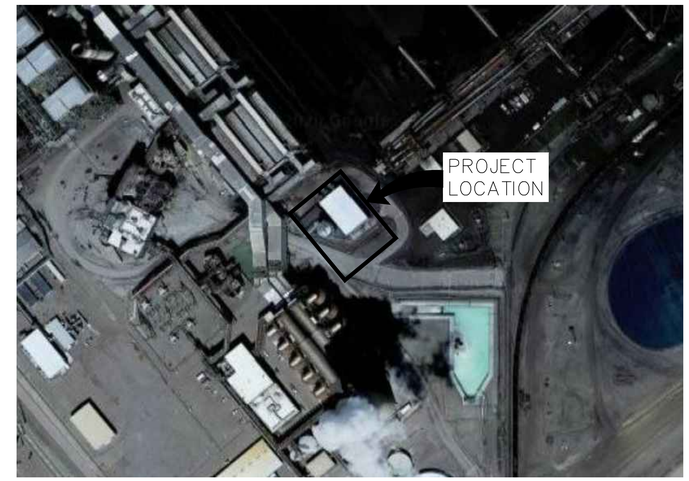
ENGINEER

wood.

ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC.
4600 E. WASHINGTON ST., SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000
FAX: 602-733-6100

Please be advised that, effective September 21, 2022, Wood Environment & Infrastructure Solutions, Inc. was acquired by WSP. Due to the acquisition, we have changed our name to WSP USA Environment & Infrastructure Inc. No other aspects of our legal entity or capabilities have changed for this document, including our Federal Tax ID which remains 91-1641772.

VICINITY MAP
SCALE: N.T.S.



LOCATION MAP
SCALE: N.T.S.

SHEET INDEX

APS NUMBER	DESCRIPTION
FC00CM-X-41-EN-LM-170003-162	COVER SHEET
FC45CM-X-41-EN-LM-163448-1	GENERAL NOTES AND SPECIFICATIONS
FC45CM-X-41-EN-LM-163448-2	ABBREVIATIONS
FC45CM-M-98-EN-LM-163450-1	MECHANICAL LEGEND
FC45CM-M-02-EN-LM-163450-2	P&ID
FC45CM-M-06-EN-LM-163450-3	OVERALL SITE PLAN
FC45CM-M-65-EN-LM-163450-4	WELL AND PIPING DETAIL
FC45CM-C-64-EN-LM-163450-5	BELOW-GROUND PIPING DETAILS
FC45CM-E-20-SR-CR-111413-54	LIGHTING PANEL SCHEDULE
FC45CM-E-01-EN-LM-163451-1	SINGLE LINE DIAGRAM
FC45CM-E-03-EN-LM-163451-2	WELL CONTROL SCHEMATIC AND CONTROL WIRING DIAGRAM TYPICAL FOR CM-01 AND CM-02
FC45CM-E-03-EN-LM-163451-3	WELL CONTROL WIRING DIAGRAM TYPICAL FOR CM-01 AND CM-02
FC45CM-E-24-EN-LM-163451-4	WELL CONTROL PANEL AND B.O.M. WELLS CM-01 AND CM-02
FC45CM-E-61-EN-LM-163451-5	WELL POWER AND GROUNDING PLAN WELLS CM-01 AND CM-02
FC45CM-E-80-EN-LM-163451-6	CONDUIT ROUTING PLAN
FC45CM-E-96-EN-LM-163451-7	HEAT TRACE PLAN

AS-BUILT CERTIFICATION

THIS SET OF AS-BUILT/RECORD DRAWINGS REFLECT CHANGES FROM THE ORIGINAL CONTRACT DRAWINGS THAT WERE MADE DURING CONSTRUCTION AND HAVE BEEN PREPARED FROM INFORMATION PROVIDED TO THE ENGINEER BY THE CONSTRUCTION CONTRACTOR(S). THE ENGINEER DOES NOT WARRANT THIS DRAWING SET TO BE COMPLETE AND ACCURATE IN ALL RESPECTS.

REBECCA WEAVER 02/25/2022
NEW MEXICO REGISTERED PROFESSIONAL ENGINEER DATE

26773
NEW MEXICO REGISTRATION NUMBER

408-250-0624
TELEPHONE NUMBER

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	2/25/22	AS-BUILT	DDM	ALK	RAW		MH	FCC08902
0.b	6/2/2021	ISSUED FOR CONSTRUCTION	RFS	ALK	TSL	DCM	MH	FCC08902
0.a	4/8/2021	ISSUED FOR BID	RFS	ALK	TSL	DCM	MH	FCC08902

wood.
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

THIS SHEET WAS ORIGINALLY SEALED BY REBECCA WEAVER ON 6-02-2021

FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
COVER SHEET

aps

SCALE NTS DATE 4/8/2021

NMOC 811
Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

DWN	EXD	APPROVED	W A
RFS	TSL	MAREN HENLEY	FCC08902
CHD ALK	RVWD DCM	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC00CM	X	41	EN	LM	170003	162

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APS FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
WA# FCC08902

General Notes:

1. Perform all work in accordance with these drawings and other related contract documents.
2. Any work performed without the approval of the Owner and/or the Engineer, and all work and materials not in conformance with the Specifications are subject to removal and replacement at the Contractor's expense.
3. The Contractor is responsible to obtain all necessary permits prior to construction.
4. Contractor agrees that the job site conditions during the course of construction of this project are their sole and complete responsibility, including the safety of all persons and property.
5. It is the Contractor's responsibility to become familiar with the job site and any underground utilities/facilities, whether shown or not on the plans.
6. Existing utilities and/or other facilities have been shown on the plans from data provided from previous field surveys, existing maps, and/or other current plans within the area of this project. The Contractor must determine the exact location and/or elevation of existing utilities that pertain to and affect the construction of this project.
7. The Contractor must call 811 for underground services to locate utility facilities at least one week prior to performing any excavation. Contractor is responsible for locating onsite utilities.
8. All pipelines, wells, substructures, or utilities of any kind, underground or above ground, must be protected in place, unless otherwise directed. Use caution during construction of the project to avoid damaging existing facilities intended to remain.
9. Take necessary and proper precautions to protect adjacent properties from any and all damage that may occur from the Contractor's operations.
10. Take special precautions around power lines in relation to equipment and project work. Power lines may be energized.
11. It is the Contractor's responsibility to protect the Work from damage due to weather events. The contractor shall accept responsibility for Work damaged by weather events in any unprotected areas of the Work.
12. The Contractor must not enter or disturb any avoidance areas, any ground off lease, and stay a minimum of 300 feet away from Chaco River.

General Piping Notes:

1. Field verify all dimensions before fabricating pipe.
2. All piping and mechanical equipment shall be installed in accordance with APS Fossil Generation Standard ME03-004001, the contract documents, or manufacturer's recommendations. If there is a discrepancy between the documents, the most stringent will apply unless otherwise approved by the Engineer.
3. Excavated areas shall be returned to its original condition.
4. Backfill shall be placed and compacted in 8-inch maximum loose lift thicknesses. Material shall be uniformly moisture conditioned and compacted by hand or mechanical methods to provide the required uniform minimum density without damage to the installation of adjacent structures. The compacted backfill shall be compacted to a minimum of 95% of the maximum dry density at a moisture content of minus 3 to plus 2 of optimum (ASTM D698).
5. All structural welding shall conform to AWS D10.12 Structural Welding Code.
6. Welding of all piping shall conform to ASME B31.1 Code.
7. HDPE pipe fusion must conform to ASTM F2620 standards.
8. Below grade piping shall be installed with tracer wire and underground warning tape in accordance with APS standard installation procedures or the contract documents. The tracer wire must be tested for continuity to the satisfaction of the Engineer.
9. All piping shall be insulated with the specified insulation and aluminum covers or jackets, and heat tracing.

General Earthwork Notes:

1. A minimum of one gradation and plasticity index test (ASTM D422 & D4318) is required per 1000 cubic yards, per soil type, of stockpiled or in-place source material.
2. One laboratory compaction curve (ASTM D698) per soil type is required, matched with an associated gradation and plasticity index test.
3. Field in-place density tests shall be taken at a rate of one test for each 100 cubic yards or three tests per shift (whichever is greater) in each type of material used as fill, or at the discretion of the Engineer's representative. Additional tests will be required in critical areas, as deemed by the Engineer.

Technical Specifications:

1. Project Description: This project consists of equipping two existing monitoring wells with submersible pumps to extract water from the wells and deliver to Sump 10. The equipment for each well will consist of a submersible well pump, level sensor, check valve, magnetic flow meter, 3-way valve to allow sampling and manual flow testing, isolation valve, flow regulator for flow control, air/vacuum release valve and controls. The controls will allow the pump to be turned on/off by a submersible level pressure transmitter. The well piping will be combined and routed down a slope to discharge into an existing outdoor drainage trench. This trench drains to Sump 10. The project will include single phase electrical work, powered from a lighting panel in the nearby PDC building. Power will be delivered to the pumps to be controlled by a local control panel located near each of the pumps. The work includes all equipment, piping, valves, meters, instruments, and appurtenances required for a complete and operational system.
2. Submersible Well Pumps
   a. Provide Grundfos Model 5SQE05-90 submersible pump and shroud where indicated on the drawings. Install local control panels with HOA and level pressure transmitter for automatic on/off control.
3. Pressure Transmitter
   a. Provide a level pressure transmitter with 4-20mA output, and minimum accuracy of 0.2% of the set span. Cable length shall be 60 feet and with PE insulation. Seals to be EPDM. Measuring range to be 0-15 psi, relative pressure. Provide Endress+Hauser Waterpilot FMX21 for wells (0.87-in diameter) submersible transmitter, or approved equal.
   b. Provide external display capable of setting display to show feet below ground surface (bgs) directly with a customizable unit (e.g. FTBGS). Provide Endress+Hauser RIA16, or approved equal.
4. General Piping:
   a. Dielectric Insulation Flange Kits / Unions shall be utilized when connecting pipes, fittings or valves of dissimilar metals.
   b. Non-detectable Underground Warning Tape shall be provided on all below-grade piping. Material shall be 4 mil thick polyethylene film with permanent 1-inch minimum lettering. Tape shall be 3-inch wide, blue, with "Caution Water Line Below" wording. Provide Christy's TA-ND-3-BW tape, or approved equal.
   c. Tracer Wire shall be provided for all below-grade piping. Material shall be 12- or 14-gauge copper clad steel wire with high-density polyethylene (HDPE) insulation, minimum 30 mil thickness. Connectors must be moisture-resistant, corrosion-resistant and designed for direct bury applications. Do not wrap wire around piping. All end points must be properly grounded. See electrical specifications and design drawings for details.
   d. Insulation shall be provided on all above-ground and below-ground piping.
   i. Provide pre-formed insulation on both above and below-ground piping, with aluminum jacket and covers on above-ground piping. Insulation thickness shall be minimum 1-1/2 inches, rated for a minimum temperature of 5° F or lower and a maximum temperature of 100° F or higher. Insulation shall be compatible with heat tracing installation.
   ii. Provide ArmaFlex insulation or approved equal.
   e. Heat tracing - Provide heat tracing on all piping, per the electrical specifications and design. HDPE pipe to be wrapped with aluminum tape or other compatible insulation layer to protect from excessive heat from heat trace wiring.
5. Piping Materials:
   a. Stainless Steel piping shall be ASTM A312 316 alloy Seamless Schedule 40. All fittings shall be ASTM A351, Class 150, threaded.
   b. Carbon Steel piping shall be ASTM A106 Grade B Seamless Schedule 40. All fittings shall be ASTM A105 Grade II, 2000 lb., threaded.
   c. HDPE piping shall be PE4710 material, IPS pipe size DR 11.
6. General Valves:
   a. Valves in steel piping shall be 316 stainless steel material with Teflon seats.
7. Air/Vacuum Release Valves
   a. Provide ½-inch (preferred) or 1-inch air/vacuum release valve with same size isolation ball valve as shown in drawings.
   b. Provide A.R.I. model D-040, DeZurik model 143C, or approved equal. Provide with A.R.I. polyurethane thermal protection jacket accessory or similar jacket for insulation.
8. Ball Valves
   a. Provide stainless steel body in-line ball valve with full port size and quarter-turn open to close, threaded connections, Teflon seat, and designed for minimum 200 psi CWP.
9. Check Valves
   a. Provide soft-seated plunger Y-type check valve with stainless steel body, 316 stainless steel internals and Teflon disc. Valve to have threaded connections. Provide Flomatic model 816 (part no. YV-500-110100), or approved equal.
10. Three-way Valves
   a. Provide stainless steel 3-way ball valve with T-shaped port to allow straight-through flow in one position and 90° flow in the other position from one inlet to one of two outlets. Seats must be designed to ensure full shut-off to discharge not being used. Valve body shall be 316 SS with Teflon seats. Provide Bonomi Model 956N, or approved equal.
11. Flow Regulator Valves
   a. Provide 1" flow regulator valve with stainless steel body, buna-N orifice, and FNPT threaded end connections. Provide regulators with flow rates as listed on design drawings. Provide Dole Valves Model SSGX, Flomatic Model Flo-Trol CDX, or approved equal.
12. Flow Meters
   a. Provide magnetic flow meters where shown on the drawings with integral field-mounted transmitter of the size shown.
   b. Power required shall be single-phase 120 VAC. Local display shall be digital with totalizer and have 4-20 mA output. Provide two grounding rings with the flow meter.
   c. Electrode shall be lined with PTFE material.
   d. Provide Rosemount Model 8705 magnetic flow meter with Model 8732 transmitter, or approved equal.

AS-BUILT CERTIFICATION

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REBECCA WEAVER 02/25/2022
NEW MEXICO REGISTERED PROFESSIONAL ENGINEER DATE

26773
NEW MEXICO REGISTRATION NUMBER

408-250-0624
TELEPHONE NUMBER

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	2/25/22	AS-BUILT	DDM	ALK	RAW		MH	FCC08902
0.b	6/2/2021	ISSUED FOR CONSTRUCTION	RFS	ALK	TSL	DCM	MH	FCC08902
0.a	4/8/2021	ISSUED FOR BID	RFS	ALK	TSL	DCM	MH	FCC08902

wood.
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

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FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
GENERAL NOTES AND SPECIFICATIONS

aps

SCALE NTS DATE 4/8/2021

DWN	EXD	APPROVED	W A
RFS	TSL	MAREN HENLEY (DRAWING APPROVED BY)	FCC08902
CHD ALK	RVWD DCM		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	X	41	EN	LM	163448	1

STANDARD ABBREVIATIONS

@	AT
ABC	AGGREGATE BASE COURSE
ACP	ASBESTOS CEMENT PIPE
ALT	ALTERNATE
ALUM	ALUMINUM
AM	AIR METER
APPROX	APPROXIMATELY
AR	AIR RELEASE VALVE
ARVR	AIR AND VACUUM RELEASE VALVE
AVG	AVERAGE
AV	AIR VACUUM RELEASE
BA	BALL VALVE
BC	BALL CHECK VALVE
BEFP	BELT FILTER PRESS
BF	BLIND FLANGE or BACKFLUSH or BUTTERFLY VALVE
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BOT	BOTTOM
BP	BACK PRESSURE REGULATING VALVE
BPS	BYPASS
CC	CENTER-TO-CENTER
CEN	CENTRATE
CFM	CUBIC FEET (OF STANDARD AIR) PER MINUTE
CIP	CLEAN IN PLACE
CIT	CITRIC ACID SOLUTION
CK	CHECK VALVE
CL	CENTERLINE
CL2	CHLORINE
CLDI	CEMENT LINED DUCTILE IRON
CMU	CEMENT MASONRY UNIT
C/O	CLEAN OUT
CONC	CONCRETE
CONN	CONNECTION
CONV	CONVEYOR
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
CSP	CORRUGATED STEEL PIPE
CW	CHAIN WHEEL
CWSD	CHEMICAL WET SCRUBBER DRAIN
CWS	CHEMICAL WET SCRUBBER
D	DRAIN or DEEP or DEPTH
DC	DOUBLE CONTAINED
DE	DISINFECTED EFFLUENT
DI	DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DP	DAMPER
DTL	DETAIL
DWG	DRAWING
DWS	DEWATERED SLUDGE
E	EAST or ELECTRIC
EA	EACH OR ELECTRIC ACTUATOR
ECC	ECCENTRIC
EDB	ELECTRICAL DUCT BANK
EFF	EFFLUENT
EL	ELEVATION
ELEC	ELECTRIC
EMH	ELECTRICAL MANHOLE
EPA	ENVIRONMENTAL PROTECTION AGENCY
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQUIP	EQUIPMENT
EXIST	EXISTING
FA	FOUL AIR
FBW	FILTER BACKWASH WASTE
FC	FLEXIBLE CONNECTOR
FCA	FLANGED COUPLING ADAPTER
FD	FLOOR DRAIN
FE	FILTER EFFLUENT
FH	FIRE HYDRANT
FI	FILTER INFLUENT
FLG	FLANGE
FLGD	FLANGED
FPM	FEET PER MINUTE
FR	FILTRATE REJECT
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT or FEET
G	GRIT
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GE	GRIT EFFLUENT
GLDI	GLASS LINED DUCTILE IRON
GV	GLOBE VALVE
GPM	GALLONS PER MINUTE
GRV	GROOVED
GV	GATE VALVE
GW	GROUNDWATER
H	HIGH or HEIGHT
HDPE	HIGH DENSITY POLYETHYLENE
HDWKS	HEADWORKS
HORIZ	HORIZONTAL
HP	HORSEPOWER
HO	HAND OPERATED
INF	INFLUENT
INV	INVERT
IWBW	INJECTION WELL BACKWASH
IWI	INJECTION WELL INFLUENT
KG	KNIFE GATE VALVE
L	LONG or LENGTH
LF	LINEAR FEET
LT	LEFT
M	METER
MAG	MAGNETIC
MAX	MAXIMUM
MECH	MECHANICAL
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
ML	MIXED LIQUOR
MLR	MIXED LIQUOR RETURN
N	NORTH
NA	NOT APPLICABLE
NaHSO3	SODIUM BISULFITE
NaOCl	SODIUM HYPOCHLORITE
NaOH	SODIUM HYDROXIDE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN or NUMBER
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NPW	NON-POTABLE WATER
OA	OUTSIDE AIR
OCD	ODOR CONTROL DUCT
OF	OVERFLOW
OHE	OVERHEAD ELECTRIC POWER LINES
OPP	OPPOSITE
PA	PROCESS AIR
PD	PLAINT DRAIN
PE	PLAIN END
PFE	PRIMARY FILTER EFFLUENT
PFI	PRIMARY FILTER INFLUENT
PI	PLANT INFLUENT
PL	PROPERTY LINE
PG	PLUG VALVE
PM	PERMEATE
PR	PRESSURE RELIEF VALVE
PRV	PRESSURE REDUCING VALVE
PVC	POLYVINYL CHLORIDE
PW	POTABLE WATER
PN	PNEUMATIC
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RED	REDUCER or REDUCING
REQ'D	REQUIRED
RH	RELATIVE HUMIDITY
RI	RAW INFLUENT
ROW	RIGHT-OF-WAY
RPM	REVOLUTIONS PER MINUTE
RS	RAW SEWAGE
RT	RIGHT
S	SOUTH or SLUDGE
SB	SCREEN BYPASS
SBR	SEQUENCING BATCH REACTOR
SBRE	SBR EFFLUENT
SBRI	SBR INFLUENT
SBS	SODIUM BISULFITE
SBW	SCREEN BACKWASH
SCR	SCREEN
SE	SCREEN EFFLUENT
SEC	SECTION
SER	SECONDARY EFFLUENT RECYCLE
SG	SLUICE GATE
SI	SCREEN INFLUENT
SIM	SIMILAR
SLG	SLIDE GATE
SMP	SAMPLE
SN	SUPERNATANT
SP IN WG	STATIC PRESSURE INCHES OF WATER GAUGE
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL or SANITARY SEWER
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL
SV	SOLENOID VALVE
T	TELEPHONE
TEMP	TEMPERATURE or TEMPORARY
TMH	TELEPHONE MANHOLE
TS&V	TAPPING SLEEVE AND VALVE
TYP	TYPICAL
UV	ULTRA-VIOLET
V	VOLTS
VAC	VOLTS ALTERNATING CURRENT
VB	VALVE BOX
VCP	VITRIFIED CLAY PIPE
VEL	VELOCITY
VERT	VERTICAL
W	WEST or WIDE or WIDTH
W/	WITH
WAS	WASTE ACTIVATED SLUDGE
WD	WIDE
WS	WATER SURFACE

AS-BUILT CERTIFICATION

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REBECCA WEAVER 02/25/2022
NEW MEXICO REGISTERED PROFESSIONAL ENGINEER DATE

26773
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408-250-0624
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Dial 8-1-1 or 1-800-321 2537

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	2/25/22	AS-BUILT	DDM	ALK	RAW		MH	FCC08902
0.b	6/2/2021	ISSUED FOR CONSTRUCTION	RFS	ALK	TSL	DCM	MH	FCC08902
0.a	4/8/2021	ISSUED FOR BID	RFS	ALK	TSL	DCM	MH	FCC08902

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FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
STANDARD ABBREVIATIONS

aps

SCALE NTS DATE 4/8/2021

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RFS	TSL	MAREN HENLEY	FCC08902
CHD ALK	RVWD DCM	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	X	41	EN	LM	163448	2

MECHANICAL LEGEND

VALVE SYMBOLS

DESCRIPTION	SYMBOL	MECHANICAL PLAN	MECHANICAL SECTION
GATE			
KNIFE GATE	K		
BUTTERFLY			
PLUG			
CHECK (SWING)			
CHECK (TILTED DISC)			
CHECK (BALL VALVE)			
BALL			
DIAPHRAGM			
GLOBE			
PRESSURE RELIEF			
AIR AND VACUUM RELEASE			
AIR RELEASE			

VALVE SYMBOLS

DESCRIPTION	SYMBOL	MECHANICAL PLAN	MECHANICAL SECTION
PRESSURE REDUCING			
BACK PRESSURE REGULATOR			
HOSE BIBB			

PIPE FITTINGS

DESCRIPTION	SYMBOL	MECHANICAL PLAN	MECHANICAL SECTION
CROSS			
TEE			
SIDE OUTLET TEE			
LATERAL			
90° ELBOW			
45° ELBOW			
SIDE OUTLET ELBOW			

PIPE FITTINGS

DESCRIPTION	SYMBOL	MECHANICAL PLAN	MECHANICAL SECTION
BASE ELBOW			
REDUCER			
BLIND FLANGE			
SLEEVE TYPE COUPLING			
SLEEVE TYPE COUPLING			
GROOVED TYPE COUPLING			
EXPANSION JOINT RUBBER BELLOWS TYPE			
EXPANSION JOINT METAL BELLOWS TYPE			
VENTURI METER			
MAGNETIC METER	M	M	
WYE STRAINER			
THERMOMETER			
UNION (SCREWED)			
VENT			

PIPE FITTINGS

DESCRIPTION	SYMBOL	MECHANICAL PLAN	MECHANICAL SECTION
PRESSURE GAUGE			
FLANGE COUPLING ADAPTER			

PIPE JOINTS

DESCRIPTION	SYMBOL	MECHANICAL PLAN	MECHANICAL SECTION
FLANGE			
MECHANICAL JOINT			
WELDED			
SCREWED			
GROOVED			
TAPPING SLEEVE			

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FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
MECHANICAL LEGEND

aps

SCALE NTS DATE 4/8/2021

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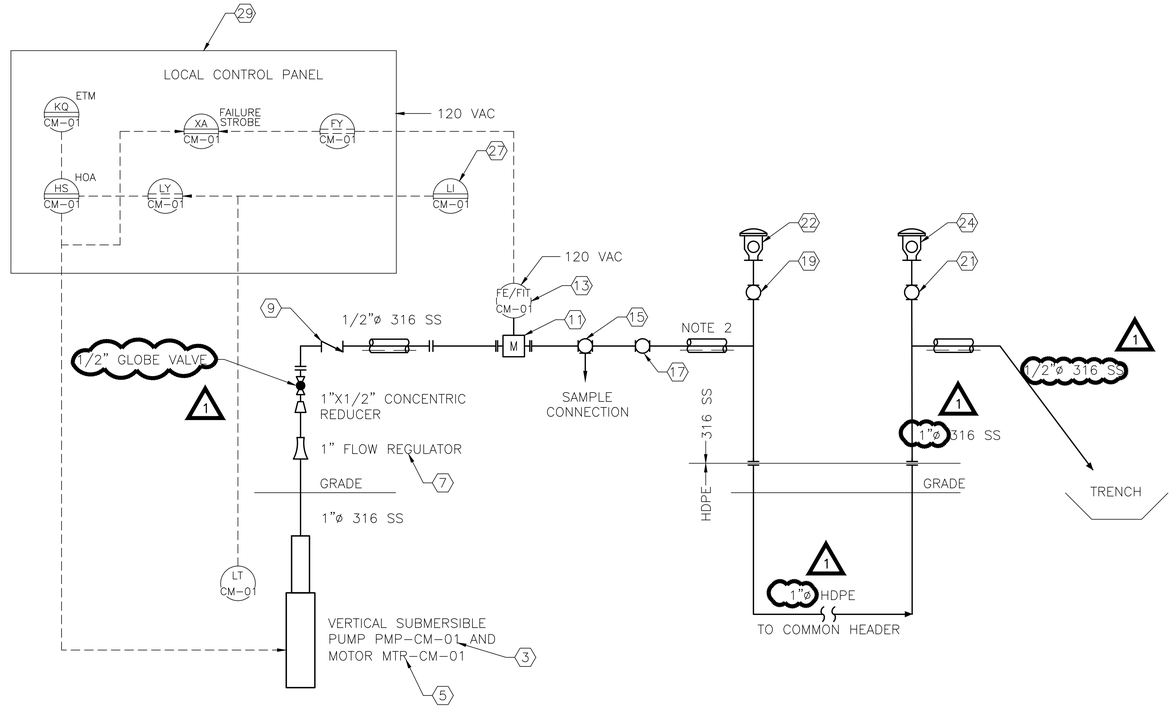
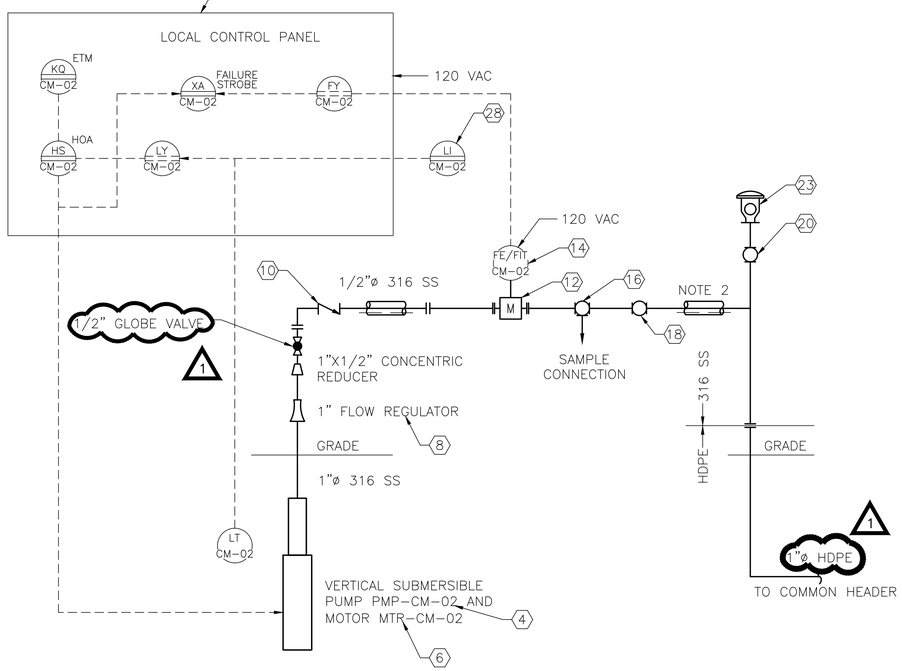
CHD ALK	RVWD DCM	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	M	98	EN	LM	163450	1



PI&D – WELL CM-01



PI&D – WELL CM-02

TAG NUMBER MATRIX

WELL NO.	PMP/MTR NO.	CP TAG NO.	MAG. FLOW METER NO.	LEVEL XMITTER NO.
CM-01	MTR-CM-01	CP-CM-01	FE-CM-01	LT-CM-01
CM-02	MTR-CM-02	CP-CM-02	FE-CM-02	LT-CM-02

SHEET NOTES:

1. ALL ABOVE GROUND PIPING SHALL BE INSULATED AND HEAT TRACED.

LEGEND - WELLS CM-01 AND CM-02

No.	UNID	No.	UNID
1	FC45CM-EN-LM-WEL-CM01	16	FC45CM-EN-LM-VLV-3BVCM02
2	FC45CM-EN-LM-WEL-CM02	17	FC45CM-EN-LM-VLV-IBVCM01
3	FC45CM-EN-LM-PMP-PMPCM01	18	FC45CM-EN-LM-VLV-IBVCM02
4	FC45CM-EN-LM-PMP-PMPCM02	19	FC45CM-EN-LM-VLV-ABVCM01
5	FC45CM-EN-LM-MTR-MTRCM01	20	FC45CM-EN-LM-VLV-ABVCM02
6	FC45CM-EN-LM-MTR-MTRCM02	21	FC45CM-EN-LM-VLV-ABVCM0102
7	FC45CM-EN-LM-ORF-ORFCM01	22	FC45CM-EN-LM-VNT-ARVCM01
8	FC45CM-EN-LM-ORF-ORFCM02	23	FC45CM-EN-LM-VNT-ARVCM02
9	FC45CM-EN-LM-CKV-CKVCM01	24	FC45CM-EN-LM-VNT-ARVCM0102
10	FC45CM-EN-LM-CKV-CKVCM02	25	FC45CM-EN-LM-SOR-LTCM01
11	FC45CM-EN-LM-MET-METCM01	26	FC45CM-EN-LM-SOR-LTCM02
12	FC45CM-EN-LM-MET-METCM02	27	FC45CM-EN-LM-IND-LICM01
13	FC45CM-EN-LM-XMT-XMTCM01	28	FC45CM-EN-LM-IND-LICM02
14	FC45CM-EN-LM-XMT-XMTCM02	29	FC45CM-EN-LM-PNL-CPCM01
15	FC45CM-EN-LM-VLV-3BVCM01	30	FC45CM-EN-LM-PNL-CPCM02

AS-BUILT CERTIFICATION

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P&ID LEGEND AND ABBREVIATIONS

	AIR RELEASE VALVE
	BALL VALVE
	3 WAY VALVE
	CHECK VALVE
M	MAGNETIC FLOW METER
	INSULATION
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
LT	LEVEL TRANSMITTER

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0.b	6/2/2021	ISSUED FOR CONSTRUCTION	RFS	ALK	TSL	DCM	MH	FCC08902
0.a	4/8/2021	ISSUED FOR BID	RFS	ALK	TSL	DCM	MH	FCC08902

wood.
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

THIS SHEET WAS ORIGINALLY SEALED BY REBECCA WEAVER ON 6-02-2021

FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
PIPING & INSTRUMENTATION SCHEMATIC

aps

SCALE NTS DATE 4/8/2021

WORK SAFELY TODAY

NMOC 811 Dial 8-1-1 or 1-800-321 2537

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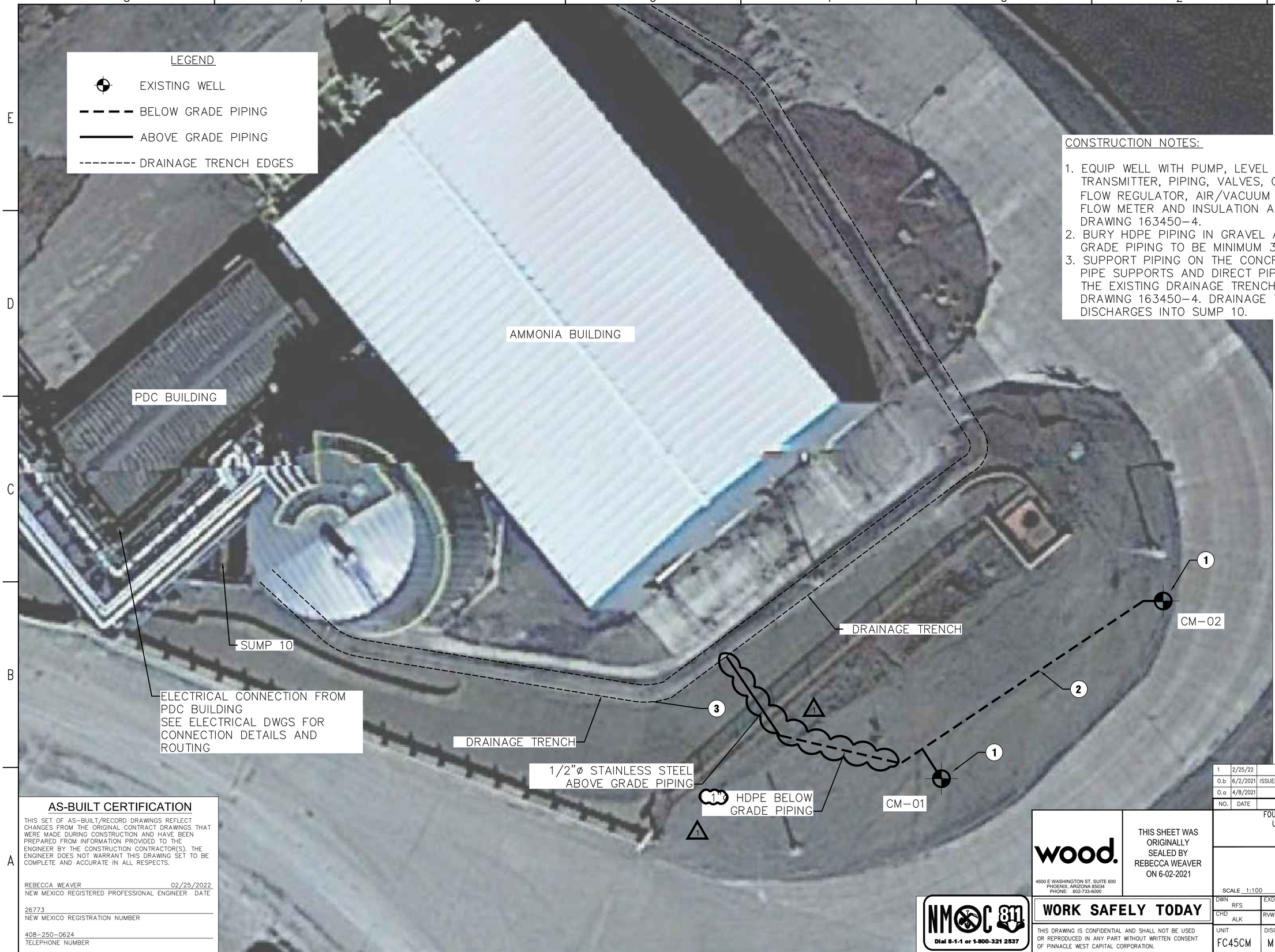
DWN	EXD	APPROVED	W A
RFS	TSL	MAREN HENLEY	FCC08902
CHD ALK	RVWD DCM	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	M	02	EN	LM	163450	2



CONSTRUCTION NOTES:

1. EQUIP WELL WITH PUMP, LEVEL PRESSURE TRANSMITTER, PIPING, VALVES, CHECK VALVE, FLOW REGULATOR, AIR/VACUUM RELEASE VALVE, FLOW METER AND INSULATION AS SHOWN ON DRAWING 163450-4.
2. BURY HDPE PIPING IN GRAVEL AREAS. BELOW GRADE PIPING TO BE MINIMUM 3 FEET DEEP.
3. SUPPORT PIPING ON THE CONCRETE SLOPE WITH PIPE SUPPORTS AND DIRECT PIPE OPENING INTO THE EXISTING DRAINAGE TRENCH AS SHOWN ON DRAWING 163450-4. DRAINAGE TRENCH DISCHARGES INTO SUMP 10.

AS-BUILT CERTIFICATION

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REBECCA WEAVER 02/25/2022
NEW MEXICO REGISTERED PROFESSIONAL ENGINEER DATE

26773
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408-250-0624
TELEPHONE NUMBER

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wood.
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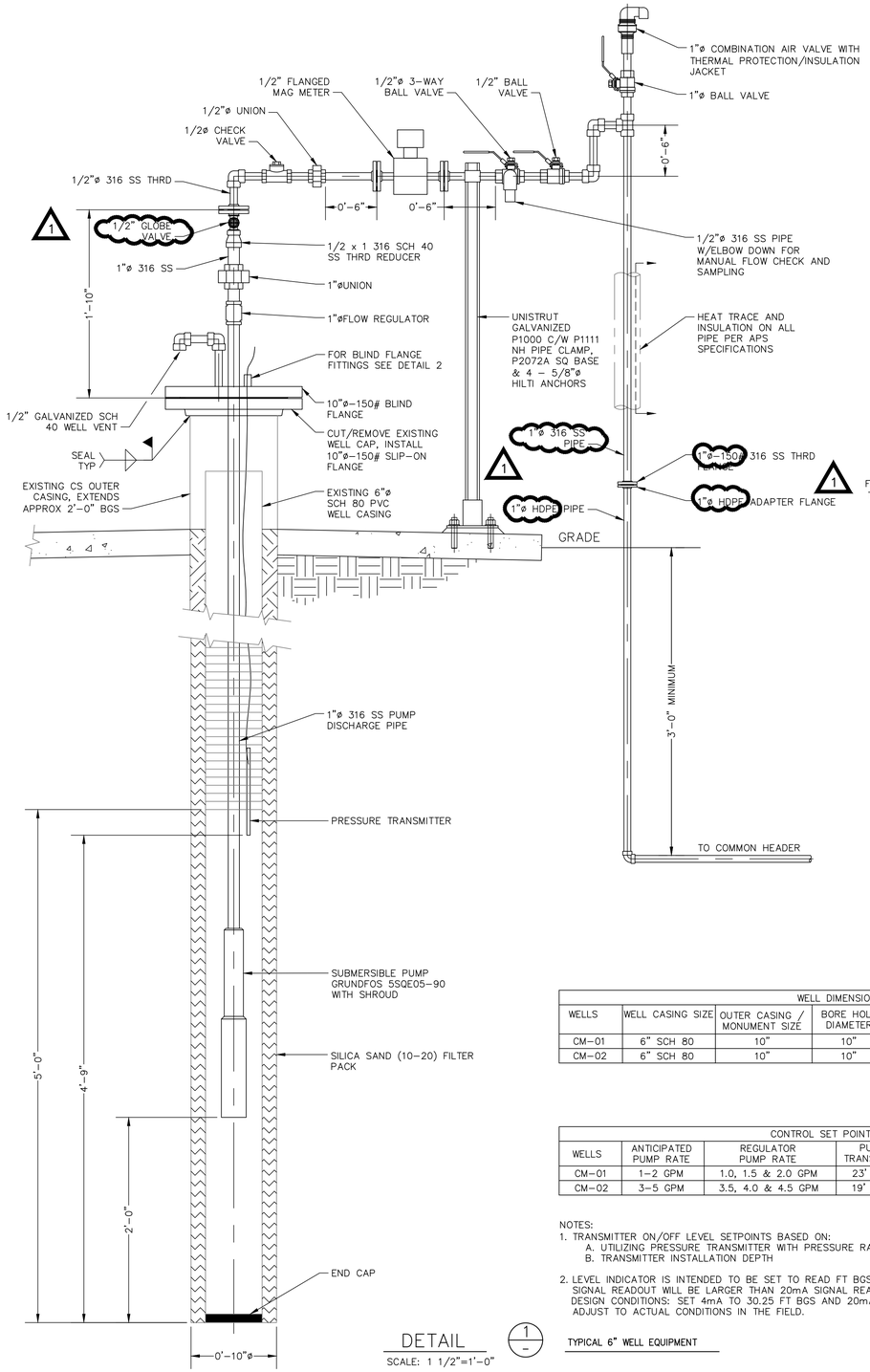
FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
OVERALL SITE PLAN

aps

SCALE 1:100 DATE 4/8/2021

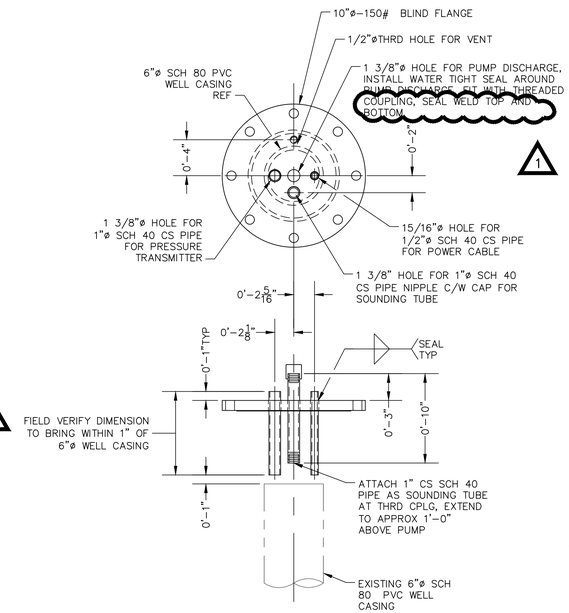
DWN	EXD	APPROVED	W A
RFS	TSL	MAREN HENLEY	FCC08902
CHD ALK	RVWD DCM	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	M	06	EN	LM	163450	3



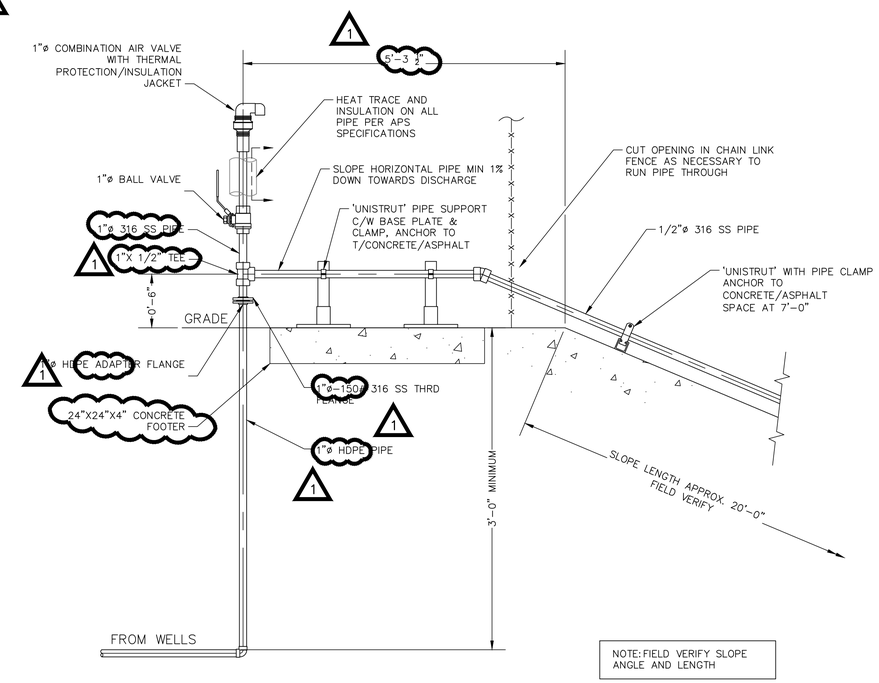
DETAIL 1/- SCALE: 1 1/2"=1'-0"

TYPICAL 6" WELL EQUIPMENT

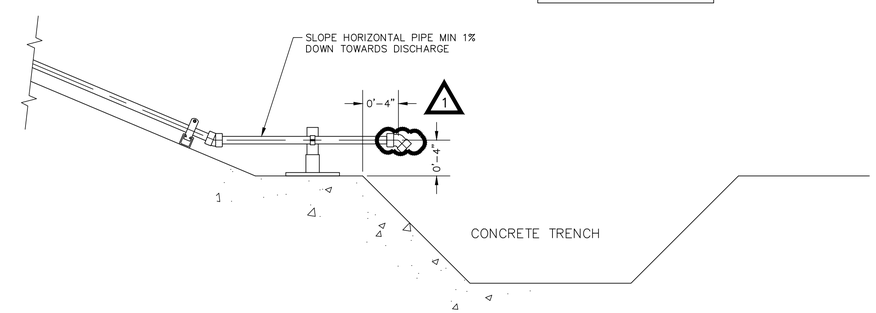


DETAIL 2/- SCALE: 1 1/2"=1'-0"

PROPOSED 6" WELL DETAIL



NOTE: FIELD VERIFY SLOPE ANGLE AND LENGTH



DETAIL 3/- SCALE: 1 1/2"=1'-0"

WELL DISCHARGE TO TRENCH

WELL DIMENSION TABLE						
WELLS	WELL CASING SIZE	OUTER CASING / MONUMENT SIZE	BORE HOLE DIAMETER	APPROX. WELL DEPTH	SCREENED SECTION	PRESSURE TRANSMITTER DEPTH
CM-01	6" SCH 80	10"	10"	35'-0"	20-30' BGS	30.25' BGS
CM-02	6" SCH 80	10"	10"	35'-0"	20-30' BGS	30.25' BGS

CONTROL SET POINTS:				
WELLS	ANTICIPATED PUMP RATE	REGULATOR PUMP RATE	PUMP ON DEPTH/ TRANSMITTER SET POINT	PUMP OFF DEPTH/ TRANSMITTER SET POINT
CM-01	1-2 GPM	1.0, 1.5 & 2.0 GPM	23' BGS / 7.35 mA	29' BGS / 4.58 mA
CM-02	3-5 GPM	3.5, 4.0 & 4.5 GPM	19' BGS / 9.19 mA	29' BGS / 4.58 mA

NOTES:
1. TRANSMITTER ON/OFF LEVEL SETPOINTS BASED ON:
   A. UTILIZING PRESSURE TRANSMITTER WITH PRESSURE RANGE OF 0-15 PSI, AND
   B. TRANSMITTER INSTALLATION DEPTH
2. LEVEL INDICATOR IS INTENDED TO BE SET TO READ FT BGS. TO DO SO, THE 4mA SIGNAL READOUT WILL BE LARGER THAN 20mA SIGNAL READOUT. DESIGN CONDITIONS: SET 4mA TO 30.25 FT BGS AND 20mA TO -4.40 FT BGS. ADJUST TO ACTUAL CONDITIONS IN THE FIELD.

AS-BUILT CERTIFICATION

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wood.
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PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

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FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
WELL & PIPING DETAILS

aps

SCALE NTS DATE 4/8/2021

NMOC 811
Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

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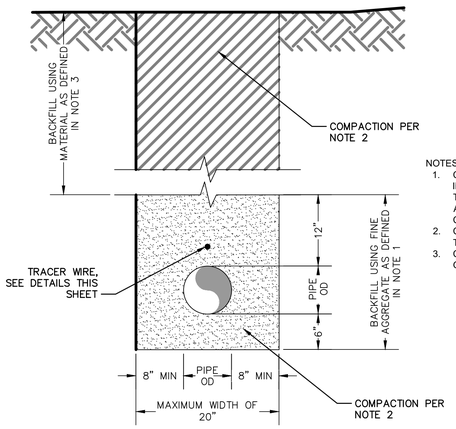
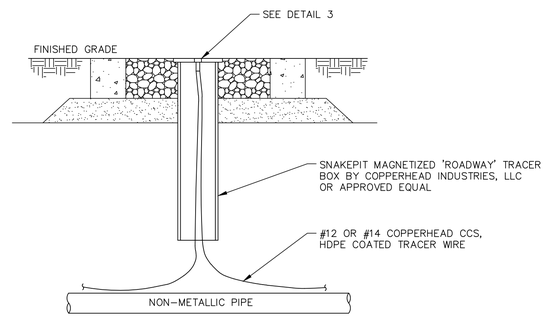
DWN	EXD	APPROVED	W A
RFS	TSL	MAREN HENLEY	FCC08902
CHD ALK	RVWD DCM	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	M	65	EN	LM	163450	4



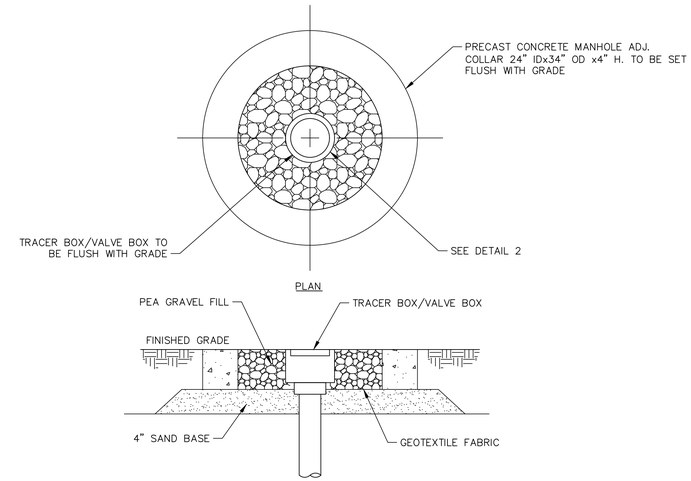
NOTES:
1. CONTRACTOR SHALL USE FINE AGGREGATE AS INITIAL BACKFILL AS DEFINED AS BEING ABLE TO PASS A NO. 4 US STANDARD SIEVE BUT NOT A NO. 200 US STANDARD SIEVE AND SHALL NOT CONTAIN ANY DELETERIOUS MATERIALS.
2. CONTRACTOR SHALL BACKFILL AND COMPACT TO 95% IN 8 INCH LIFTS. SEE TECHNICAL NOTES.
3. CONTRACTOR TO USE CLSM, ABC, AND/OR GRANULAR OR SCREENED NATIVE BACKFILL.

DETAIL 1 — TRENCH DETAIL
NTS

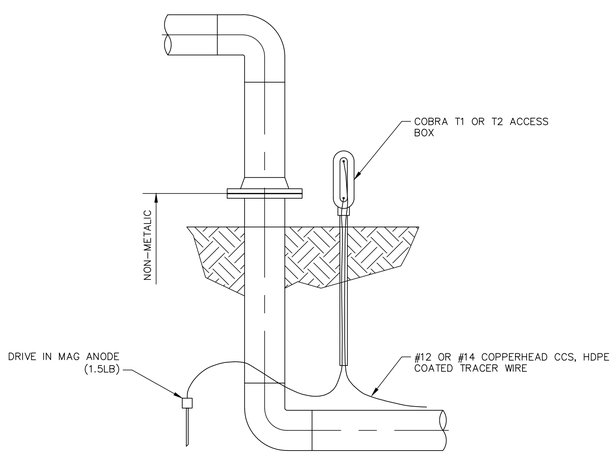


NOTES:
1. TRACER BOXES SHALL BE LOCATED AT EACH ELBOW.
2. MAXIMUM SPACING OF TRACER BOXES SHALL BE 1000'.

DETAIL 2 — TYPICAL TRACER BOX PIPES THAT ARE BELOW GROUND
NTS



DETAIL 3 — TYPICAL TRACER BOX PROTECTION COLLAR
NTS



NOTES:
1. TRACER BOXES SHALL BE LOCATED AT EACH ELBOW.
2. MAXIMUM SPACING OF TRACER BOXES SHALL BE 1000'.
3. COBRA T1 USED WITH NO GROUNDING ANODE.
4. COBRA T2 USED WITH GROUNDING ANODE.

DETAIL 4 — TYPICAL TRACER BOX PIPES THAT COME ABOVE GROUND
NTS

AS-BUILT CERTIFICATION

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wood.
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FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
BELOW-GROUND PIPING DETAILS

aps

SCALE NTS DATE 4/8/2021

NMOC 811 Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

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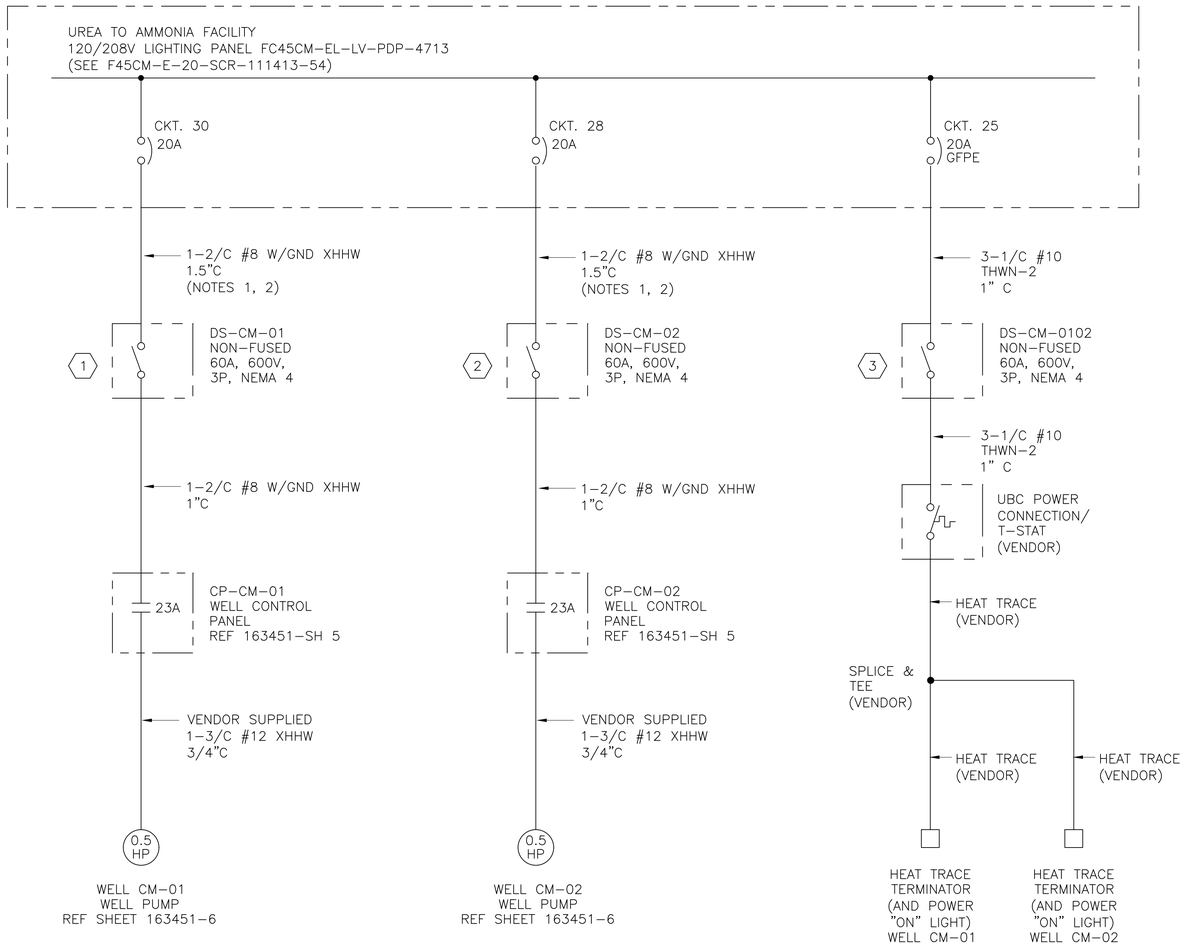
DWN	EXD	APPROVED	W A
RFS	TSL	MAREN HENLEY (DRAWING APPROVED BY)	FCC08902
CHD ALK	RVWD DCM		

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	M	64	EN	LM	163450	5



SHEET NOTES:

1. PROVIDE OVERHEAD CONDUIT RUN FROM LIGHTING PANEL THROUGH PDC WALL TO PIPE RACK, AND ALONG PIPE RACK TO FENCE. DROP FROM PIPE RACK TO FENCE AND CONTINUE TO END OF FENCE, SUPPORTED BY FENCE STRUCTURE. SEE ELEVATION DRAWING.
2. EXCAVATE FROM END OF FENCE TO PIPING ROUTE NEAR LIGHTING POLE. ROUTE UNDERGROUND CONDUIT FROM END OF FENCE TO PIPING HYDRO-EXCAVATION, AND FOLLOW TO CM-01 AND CM-02 WELLS. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC WITH RGS ELBOWS AND RISERS. EXTEND RISERS A MINIMUM OF 6" ABOVE GRADE AND TAPE ALL RGS CONDUIT WITH SCOTCHWRAP 50 PLC TAPE.
3. PROVIDE ENGRAVED NAMEPLATES WITH 3/8" LETTERING FOR EACH DISCONNECT SWITCH IDENTIFY THE SWITCH AS THE DISCONNECT FOR THE WELL PUMP CONTROL PANEL.
4. MINIMUM CONDUIT DEPTH IS 24" TO TOP OF CONDUIT. WHERE RUN UNDERNEATH ROADS OR VEHICLE ACCESS LOCATIONS, INSTALL CONDUIT MINIMUM 30" DEEP AND ENCASE IN MINIMUM 4" CONCRETE. OVER EACH DUCT BANK OR CONDUIT RUN, PROVIDE MAGNETICALLY DETECTIBLE WARNING TAPE 12" BELOW FINISHED GRADE OR AT DEPTH RECOMMENDED BY WARNING TAPE MANUFACTURER.
5. CHROMALOX (OR EQUAL) HEAT TRACE CABLE, 120V, 3 WATTS/FT, SELF REGULATING, PROVIDED WITH SPLICE & TEE, POWER CONNECTION/T-STAT, END SEAL TERMINATION KITS AND INDICATING LIGHTS AS SHOWN. LENGTH AS REQUIRED. SEE DRAWING FC45CM-E-96-LM-163451 SH 7 FOR MORE HEAT TRACE DETAILS.

LEGEND – WELLS CM-01 AND CM-02	
NO.	UNID
1	FC45CM-EN-LM-DSCM01
2	FC45CM-EN-LM-DSCM02
3	FC45CM-EN-LM-DSCM0102

AS-BUILT CERTIFICATION

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JEFFREY JORGENSEN 03/09/2022
NEW MEXICO REGISTERED PROFESSIONAL ENGINEER DATE

19288
NEW MEXICO REGISTRATION NUMBER

801-382-6873
TELEPHONE NUMBER

NMOC 811
Dial 8-1-1 or 1-800-321 2537

wood.
4600 E WASHINGTON ST, SUITE 600
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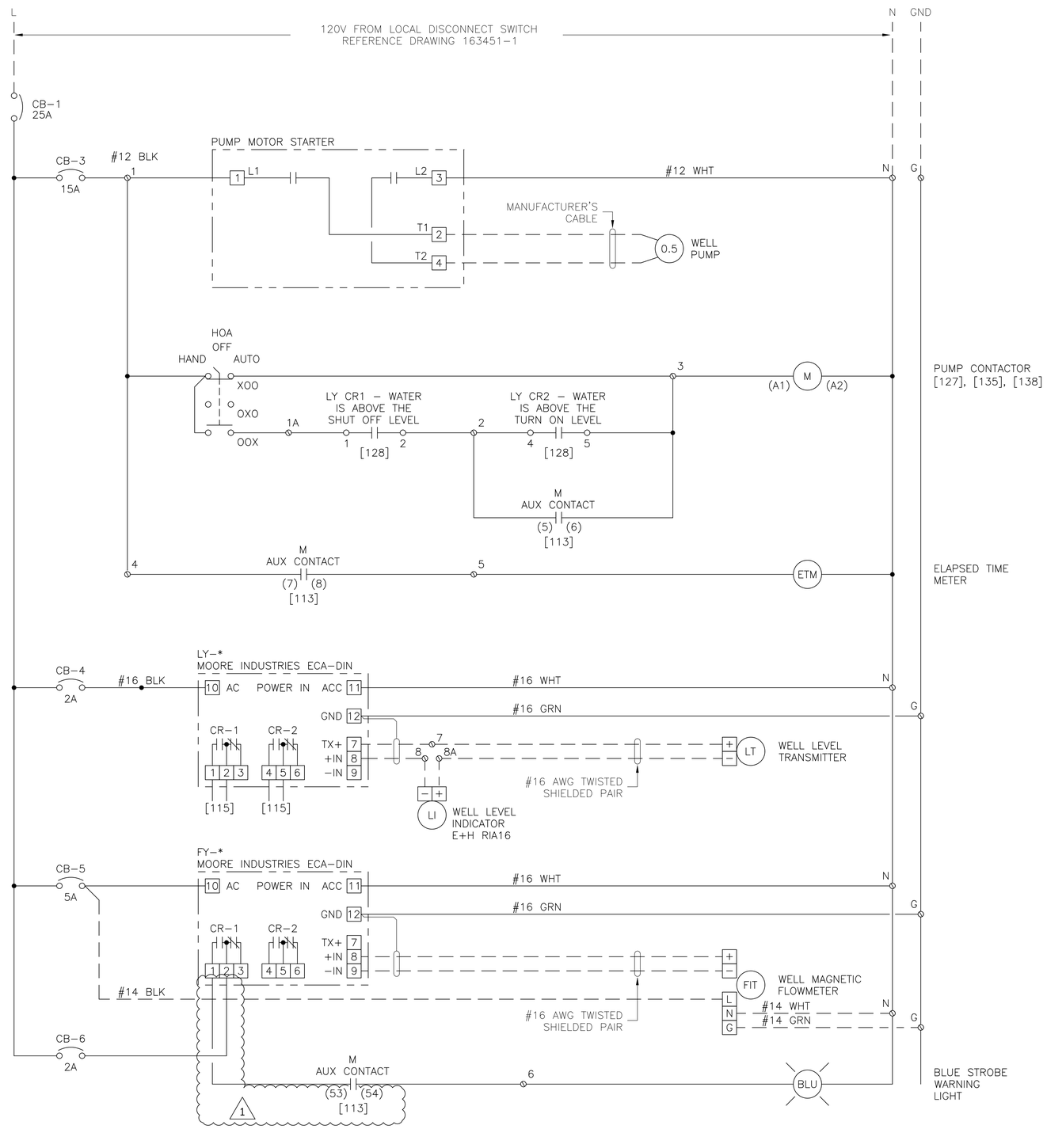
FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
ONE LINE DIAGRAM

aps

SCALE NTS DATE 4/8/2021

DWN	EXD	APPROVED	W A
RSB		MAREN HENLEY	FCC08902
CHD BR	RVWD JJ	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	01	EN	LM	163451	1



TYPICAL SCHEMATIC DIAGRAM – WELLS CM-01 & CM-02

SHEET NOTES:

1. WHEN THE PUMP IS RUN IN THE AUTO MODE IT IS CONTROLLED BY THE LEVEL (LY) TRANSMITTER.
2. LY CR1 (LSL) CONTACT CLOSES WHEN WELL LEVEL RISES ABOVE THE "SHUT PUMP OFF" DEPTH.
3. WHEN THE LEVEL FALLS BELOW THE "SHUT PUMP OFF" DEPTH, LY CR1 (LSL) WILL OPEN STOPPING THE MOTOR.
4. LY CR2 (LSH) CONTACT CLOSES WHEN THE WELL LEVEL RISES ABOVE THE "START PUMP DOWN" LEVEL AND THE WELL STARTS.
5. M (HOLDING CONTACT) CLOSES WHEN THE CONTACTOR IS ENERGIZED. THE CONTROL CIRCUIT WILL KEEP THE PUMP OPERATING AS THE LEVEL BEGINS TO FALL.
6. IF THE PUMP IS RUN MANUALLY (HAND MODE) FROM THE CONTROL PANEL, THE OPERATOR MUST NOT LET THE PUMP RUN DRY BY MONITORING THE FLOWMETER.
7. THE SYSTEM WILL CYCLE LIKE THIS AS LONG AS THE WELL HAS POWER.

AS-BUILT CERTIFICATION

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FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
WELL CONTROL SCHEMATIC & CONTROL WIRING DIAGRAM
TYPICAL FOR CM-01 & CM-02

aps

SCALE NTS DATE 4/8/2021

WORK SAFELY TODAY

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DWN	EXD	APPROVED	W A
RSB		MAREN HENLEY	FCC08902
CHD BR	RVWD JJ	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	03	EN	LM	163451	2

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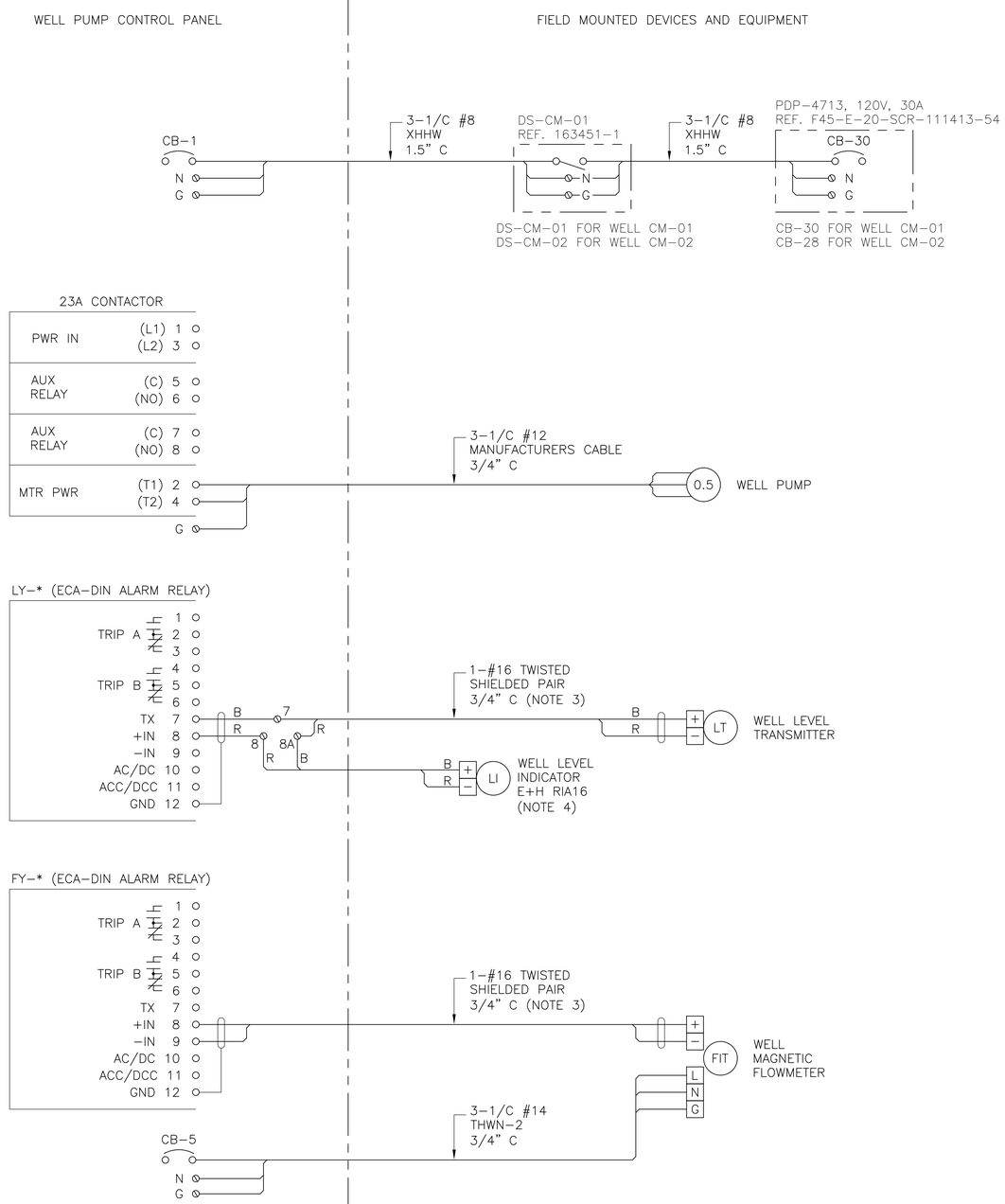

TYPICAL CONNECTION DIAGRAM – WELLS CM-01 & CM-02

SHEET NOTES:

1. BOTH THE LEVEL TRANSMITTER AND THE MAGNETIC FLOWMETER ANALOG CABLES MAY BE RUN IN A COMMON CONDUIT BETWEEN THE WELL CONTROL PANEL AND THE WELL. PROVIDE A CONDULET TEE OR A SMALL NEMA 4 ELECTRICAL BOX TO SEPARATE THE CABLES TO THEIR RESPECTIVE TRANSMITTERS.
2. ATTACH A 2" GALVANIZED PIPE TO THE SIDE OF THE CONTROL PANEL UNISTRUT FRAME. MOUNT THE LEVEL INDICATOR ON THE 2" PIPE AND PROVIDE CONDUIT AND CONDUCTORS AS SHOWN.

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FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
WELL CONTROL WIRING DIAGRAM
TYPICAL FOR CM-01 & CM-02

aps

SCALE NTS DATE 4/8/2021

WORK SAFELY TODAY

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RSB		MAREN HENLEY	FCC08902
CHD BR	RVWD JJ	DRAWING APPROVED BY	

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UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	03	EN	LM	163451	3

F45-E-20-SCR-111413-54

120/208V LIGHTING PANEL

REV	SERVICE	CABLE SIZE (SEE NOTE 3)	REF DWG (SEE NOTE 2)	WATTAGE A	WATTAGE B	WATTAGE C	BKR	CKT NO.	MAIN BKR A B C	CKT NO.	BKR	WATTAGE A	WATTAGE B	WATTAGE C	REF DWG (SEE NOTE 2)	CABLE SIZE (SEE NOTE 3)	SERVICE	REV
0	EXTERIOR LIGHTING CONTACTOR 1	2-1/C #10 W/GND	–	120			20/1	1		2	20/1	120			–	2-1/C #10 W/GND	INTERIOR LIGHTING CIRCUIT	0
0	INTERIOR LIGHTS A	2-1/C #10 W/GND	–		1228		20/1	3		4	20/1		720		–	2-1/C #10 W/GND	INTERIOR RECEPTACLES A	0
0	EXTERIOR RECEPTACLES	2-1/C #10 W/GND	–			540	20/1	5		6	20/1			12	–	2-1/C #10 W/GND	HV SWT 47 LIGHT CKT	0
0	ROAD LIGHTING	2/C #6 W/GND 2/C #6 W/GND	36	756			20/1	7		8	20/1	756			36	2/C #6 W/GND 2/C #6 W/GND	ROAD LIGHTING	0
0	SPARE						20/1	9		10	20/1						SPARE	0
0	UREA DISSOLVER TANKS PLATFORMS & DRY UREA BLOWER ENCLOSURES AREA LIGHTING	2/C #10 W/GND 2/C #10 W/GND	38			470	20/1	11		12	20/1			470	38	2/C #10 W/GND 2/C #10 W/GND	UREA DISSOLVER TANKS PLATFORMS & DRY UREA BLOWER ENCLOSURES AREA LIGHTING	0
0	SPARE						20/1	13		14	20/1						SPARE	0
0	SPARE						20/1	15		16	20/1						SPARE	0
0	UTILITY RACK AREA & UREA SOLUTION STORAGE TANK LIGHTING	2/C #10 W/GND 2/C #10 W/GND	37			144	20/1	17		18	20/1			194	37	2/C #10 W/GND 2/C #10 W/GND	UTILITY RACK AREA & UREA SOLUTION STORAGE TANK LIGHTING	0
0	UTILITY RACK AREA & UREA SOLUTION STORAGE TANK RECEPTACLES	2/C #10 W/GND 2/C #10 W/GND	37	180			20/1	19		20	20/1	360			37	2/C #10 W/GND 2/C #10 W/GND	UTILITY RACK AREA & UREA SOLUTION STORAGE TANK RECEPTACLES	0
0	SPARE						20/1	21		22	20/1						SPARE	0
0	UREA DISSOLVER TANKS RECEPTACLES	2/C #10 W/GND 2/C #10 W/GND	38			360	20/1	23		24	20/1			360	38	2/C #10 W/GND 2/C #10 W/GND	UREA DISSOLVER TANK & DRY UREA BLOWER ENCLOSURES AREA RECEPTACLES	0
NOTE 5 △2 0	URS WELL PUMPS CM-01 & CM-02 FREEZE PROTECTION ⟨25⟩	2/C #10 W/GND	1	600			20/1	25		26	20/1						SPARE	0
0	SPARE						20/1	27		28	20/1	475			1	2/C #8 W/GND	URS WELL PUMP CM-02 ⟨28⟩	0
0	SPARE						20/1	29		30	20/1		475		1	2/C #8 W/GND	URS WELL PUMP CM-01 ⟨30⟩	0
0	SPARE						20/1	31		32	20/1						SPARE	0
0	SPARE						20/1	33		34	20/1						SPARE	0
0	SPARE						20/1	35		36	20/1						SPARE	0
0	SPARE						20/1	37		38	20/1						SPARE	0
0	SPARE						20/1	39		40	20/1						SPARE	0
0	SPARE						20/1	41		42	20/1						SPARE	0
			TOTAL	1656	1228	1514						1236	1195	1511	TOTAL			

△2

A	B	C
2892	2423	3025

△2

△2

NAMEPLATE: FC45CM-EL-LV-PDP-4713
SERVICE: UREA TO AMMONIA
MAIN BUS RATING: 225 AMP
MAIN LUG SIZE: 4-1/C #2/0; 1/C #6 (GND)
MAIN BREAKER RATING: 150 AMP
ENCLOSURE TYPE (NEMA): 12
MOUNTING: SURFACE
LOCATION: PDC UREA
SUPPLY: 45KVA, FC45CM-EL-LV-XFR-4713
MANUF: SQUARE D – NQ
BREAKER TYPE: QO

NOTES:

1. 22K AIC RATING.
2. ALL REFERENCE DRAWING NUMBERS ARE PREFIXED WITH "F45-E-20-SCR-111413-" OR "FC45CM-E-01-EN-LM-163451-1".
3. FIRST CABLE SIZE IS FOR HOME RUN WIRING AND SECOND ONE FOR INTER-FIXTURE WIRING.
4. EACH LIGHTING CIRCUIT TO BE WIRED TO SEPARATE EXTERIOR LIGHTING CONTACTOR (FC45CM-EL-LV-CON-4713) POLE, LOCATED IN U2A – PDC. CONTRACTOR SHALL IDENTIFY CONTACTOR POLE FOR EACH LIGHTING CIRCUIT.
5. △2 20A GFPE BREAKER.

REFERENCE DRAWINGS:

2185990100403 – 120/208VAC LIGHTING PANEL LV-PDP-4713
F45-E-20-SCR-111413-36 – LIGHTING PLAN – UREA TO AMMONIA FACILITY – NEW ACCESS ROADS
F45-E-20-SCR-111413-37 – LIGHTING PLAN – UTILITY RACK AND UREA SOLUTION STORAGE TANK
F45-E-20-SCR-111413-38 – LIGHTING PLAN – UREA DISSOLVER TANKS
△2 FC45CM-E-01-EN-LM-163451-1 – SINGLE LINE DIAGRAM

△2

LEGEND – WELLS CM-01 AND CM-02	
NO.	UNID
⟨25⟩	FC45CM-EN-LM-BKR-PDP471325
⟨28⟩	FC45CM-EN-LM-BKR-PDP471328
⟨30⟩	FC45CM-EN-LM-BKR-PDP471330

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	ARVD	W.A.
2	3/9/22	AS-BUILT	RSB	BR		JJ	MH	FCC03864
1.b	06/21	ISSUED FOR CONSTRUCTION	RSB	BR		JJ	MH	FCC03864
1.a	04/21	ADDED WELL EQUIP; IFB	RSB	BR		JJ	MH	FCC03864

URS ENERGY & CONSTRUCTION Inc. – an AECOM Company
510 CARNEGIE CTR.
PRINCETON, NJ 08540
(609) 720-2000
AECOM

AECOM DWG. NO.
061-17-11-357-007

FOUR CORNERS UNITS 4 & 5
SCR PROJECT
UREA TO AMMONIA FACILITY 120/208V LIGHTING PANEL
FC45CM-EL-LV-PDP-4713

aps

SCALE NONE DATE 12/18/17
DWN SFV
CHD VTV
EXD AL
RVWD FJH
APPROVED
FRAN HARKINS
DRAWING APPROVED BY
W A FCC03864 FBC90401

UNIT	DISC	TYPE	SYS	NUMBER	SHEET
F45	E	20	SCR	111413	54

AS-BUILT CERTIFICATION

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JEFFREY JORGENSEN 03/09/2022
NEW MEXICO REGISTERED PROFESSIONAL ENGINEER DATE

19288
NEW MEXICO REGISTRATION NUMBER

801-382-6873
TELEPHONE NUMBER

THIS SHEET WAS ORIGINALLY SEALED BY Jeffery Jorgensen ON 06-03-2021

$TIME$
USER: $USER$
PLOT SENT: $DATE$
FILE: $FILE$

INCHES 1 2
CENTIMETERS 1 2 3 4 5 6

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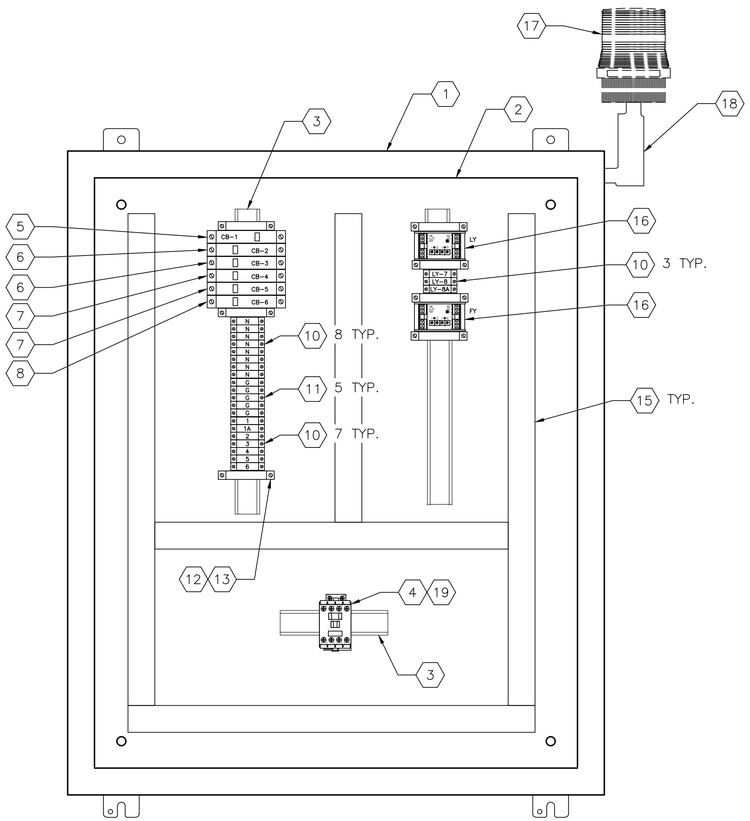
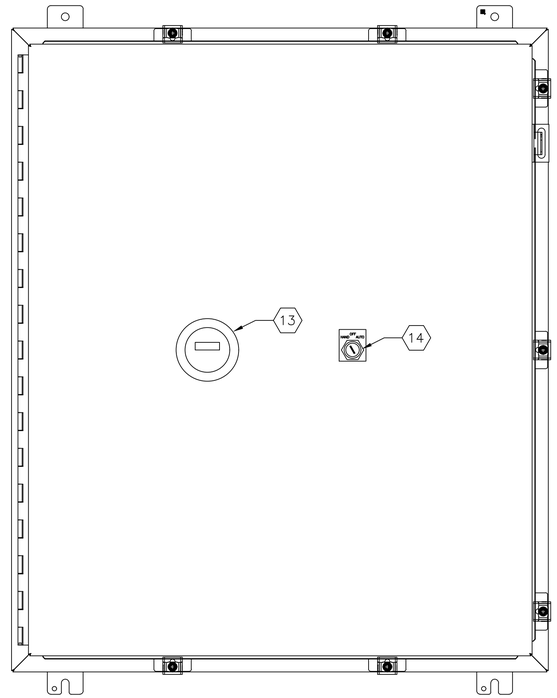


BACK PANEL LAYOUT



FRONT COVER LAYOUT

BILL OF MATERIAL

ITEM #	QTY	TAG NO'S	MFG	MODEL NO.	DESCRIPTION
1	1 EACH	SEE TAG MATRIX	HOFFMAN	A36H30CLP	ENCLOSURE, 36" H X 30" W X 10" DEEP, MILD STEEL, NEMA 4, HINGED WALL MOUNT WITH FAST-OPERATING CLAMPS
2	1 EACH	N/A	HOFFMAN	A36P30	SUBPANEL, 27" H X 33" WIDE, MILD STEEL, PAINTED WHITE
3	AS REQD	N/A	VARIOUS	VARIOUS	DIN RAIL, STEEL, SLOTTED BASE, STANDARD HEIGHT
4	1 EACH	SEE TAG MATRIX	ALLEN BRADLEY	100-C23D400	MOTOR CONTACTOR, 120V, 23A, 2 POLE, WITH 2 AUXILLARY CONTACTS
5	1 EACH	CB-1	ALLEN BRADLEY	1489-M1C250	CIRCUIT BREAKER, BRANCH CIRCUIT RATED, 25A, 1-POLE, 125VAC, DIN RAIL MOUNT
6	1 EACH	CB-3	ALLEN BRADLEY	1492-SPM1C150	CIRCUIT BREAKER, SUPPLEMENTAL, 15A, 1-POLE, 125VAC, DIN RAIL MOUNT
7	2 EACH	CB-2, CB-5	ALLEN BRADLEY	1492-SPM1C050	CIRCUIT BREAKER, SUPPLEMENTAL, 5A, 1-POLE, 125VAC, DIN RAIL MOUNT.
8	2 EACH	CB-4, CB-6	ALLEN BRADLEY	1492-SPM1C020	CIRCUIT BREAKER, SUPPLEMENTAL, 2A, 1-POLE, 125VAC, DIN RAIL MOUNT.
9					
10	20 EACH	N/A	PHOENIX CONTACT	UT 6 3044131	TERMINAL BLOCKS, FEED-THROUGH STYLE, 8 MM WIDTH, DIN RAIL MOUNT, GREY COLOR, LABELED "N"
11	5 EACH	N/A	PHOENIX CONTACT	UT 6-PE 3044157	TERMINAL BLOCKS, GROUNDING STYLE, 8 MM WIDTH, DIN RAIL MOUNT, GREEN/YELLOW COLOR
12	7 EACH	N/A	PHOENIX CONTACT	CLIPFIX 35 3022218	TERMINAL BLOCK END CLAMP, HEAVY DUTY
13	1 EACH	ETM	WESCHLER INDUSTRIES	240-731-AAAE	ELAPSED TIME METER, ROUND CASE, 3 1/2", 120V
14	1 EACH	HOA	ALLEN BRADLEY	800H-JR2A	SELECTOR SWITCH, 3 POSITION, WITH 800H-W551 HOA NAMEPLATE
15	AS REQ'D	N/A	VARIOUS	VARIOUS	WIRING DUCT, COMB STYLE WITH COVER, WHITE, 1.5" WIDE BY 4" TALL
16	2 EACH	LY-*, FY-*	MOORE INDUSTRIES	ECA/4-20mA/DH2H2/117AC/-TX/DIN	CURRENT ALARM RELAY, 4-20MADC IN, DUAL RELAY OUTPUT, LY RELAYS CONFIGURED FOR HIGH ALARM, FY RELAYS CONFIGURED FOR LOW ALARM, WITH +24 XMTR PWR (1)
17	1 EACH	XA-*	FEDERAL SIGNAL	FB2PST-120B	STROBE WARNING LIGHT, BLUE LENS, 120 VAC
18	1 EACH	N/A	N/A	N/A	CONDULET LB ½" WITH ½" NIPPLE
19	1 EACH		ALLEN BRADLEY	100-FA31	AUXILLARY CONTACT BLOCK FOR ITEM 4, 3 NO & 1 NC CONTACTS

TAG NUMBER MATRIX

WELL NO.	PANEL TAG NO. ITEM NO. 1
CM-01	CP-CM-01
CM-02	CP-CM-02

SHEET NOTES:

1. THE BILL OF MATERIAL IS TYPICAL FOR EACH PUMP CONTROL PANEL FOR WELLS CM-01 AND CM-02.
2. WITH OWNER'S AND ENGINEER'S PERMISSION OTHER FUNCTIONALLY EQUIVALENT MANUFACTURER'S PRODUCTS MAY BE USED
3. PROVIDE NAMEPLATES ENGRAVED WITH THE CONTROL PANEL TAG NUMBER. ATTACH TO PANEL FRONT WITH STAINLESS STEEL SCREWS

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19288
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801-382-6873
TELEPHONE NUMBER

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	3/9/22	AS-BUILT	RSB	BR		JJ	MH	FCC08902
0.b	6/2/21	ISSUED FOR CONSTRUCTION	RSB	BR		JJ	MH	FCC08902
0.a	4/8/21	ISSUED FOR BID	RSB	BR		JJ	MH	FCC08902

wood.
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

THIS SHEET WAS ORIGINALLY SEALED BY Jeffery Jorgensen ON 06-03-2021

NMOC 811
Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

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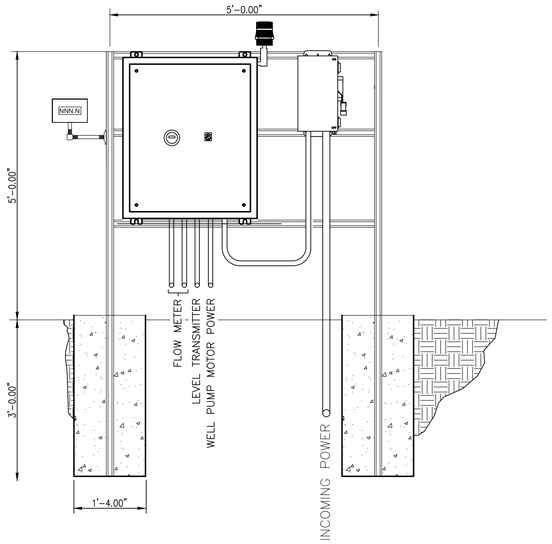
FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
WELL CONTROL PANEL AND B.O.M.
WELLS CM-01 & CM-02

aps

SCALE NTS DATE 4/8/2021

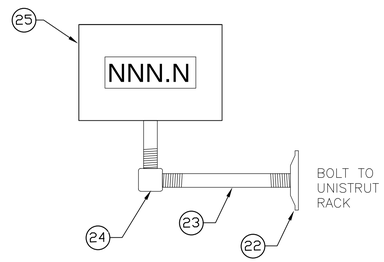
DWN	EXD	APPROVED	W A
RSB		MAREN HENLEY	FCC08902
CHD BR	RVWD JJ	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	24	EN	LM	163451	4



WELL CONTROL PANEL & DISCONNECT SWITCH

TYPICAL FOR CM-01 & CM-02



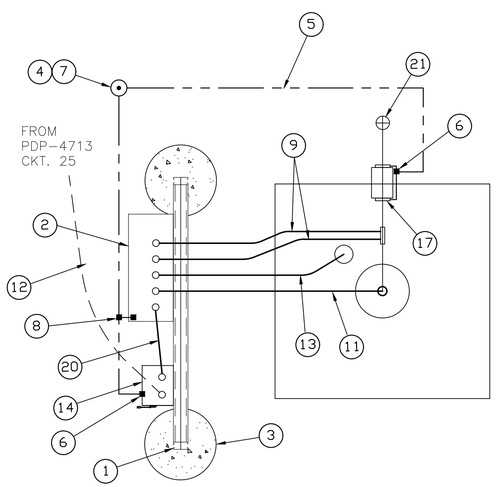
LEVEL INDICATOR MOUNTING DETAIL

KEY NOTES: (X)

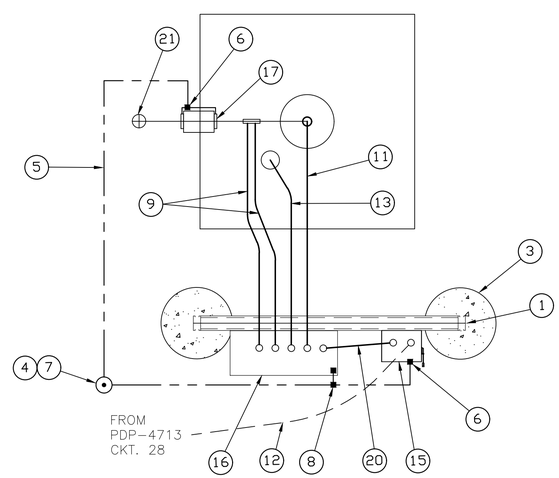
1. 316SS BACK TO BACK P1001 UNISTRUT.
2. WELL CONTROL PANEL CP-CM-01.
3. 36" LONG BY 16" DIAMETER SONOTUBE. CENTER UNISTRUT WITHIN TUBE AND FILL TO 2" ABOVE GRADE WITH 4000 PSI CONCRETE. SLOPE TOP CONCRETE SURFACE TO FACILITATE WATER RUN OFF.
4. 3/4" X 10' LONG COPPER CLAD STEEL GROUND ROD.
5. #2 BARE COPPER GROUND WIRE.
6. BOLTED GROUNDING CONNECTOR.
7. CADWELD GROUNDING CONNECTION.
8. CADWELD CABLE TO CABLE GROUND CONNECTION.
9. (2)-3/4" RIGID STEEL CONDUITS FOR FLOW METER.
10.
11. 3/4" RIGID STEEL CONDUIT FOR PUMP MOTOR POWER. CABLE PROVIDED BY MANUFACTURER.
12. 1 1/2" RIGID STEEL CONDUIT FOR DISCONNECT POWER.
13. 3/4" RIGID STEEL CONDUIT FOR LEVEL TRANSMITTER.

KEY NOTES: (X)

14. NON-FUSIBLE DISCONNECT SWITCH (DS-CM-01). SQUARE D MODEL HU362DS (OR EQUIVALENT), 60A 2 POLES, 240VAC, NEMA 4X. (1)
15. NON-FUSIBLE DISCONNECT SWITCH (DS-CM-02). SQUARE D MODEL HU362DS (OR EQUIVALENT), 60A 2 POLES 240VAC, NEMA 4X. (1)
16. WELL CONTROL PANEL CP-CM-02.
17. CONTRACTOR TO INSTALL FLOW METER GROUNDING RINGS ON BOTH SIDES OF THE FLOW METER. GROUND ACCORDINGLY.
18. WELL CM-01 WHICH HOUSES WELL PUMP, FLOW METER, LEVEL XMITTER. ALL EXPOSED PIPING SHALL HAVE HEAT TRACE.
19. WELL CM-02 WHICH HOUSES WELL PUMP, FLOW METER, LEVEL XMITTER. ALL EXPOSED PIPING SHALL HAVE HEAT TRACE.
20. 1" RIGID STEEL CONDUIT FOR CONTROL PANEL POWER.
21. PIPING TO COMMON HEADER.
22. 2" FLANGE END FOR 3/4" GALVANIZED PIPE
23. 3/4" GALVANIZED PIPE, 6" LONG
24. 3/4" GALVANIZED PIPE 90°, FNPT
25. E&H RIA16 LOCAL FIELD INDICATOR (WELL LEVEL INDICATOR) WITH 3/4" PIPE STAND MOUNTING BRACKET.



POWER AND GROUNDING DIAGRAM FOR CM-01



POWER AND GROUNDING DIAGRAM FOR CM-02

AS-BUILT CERTIFICATION

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wood.
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PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

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FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
WELL POWER AND GROUNDING PLAN
WELLS CM-01 & CM-02

aps

SCALE NTS DATE 4/8/2021

NMOC 811
Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

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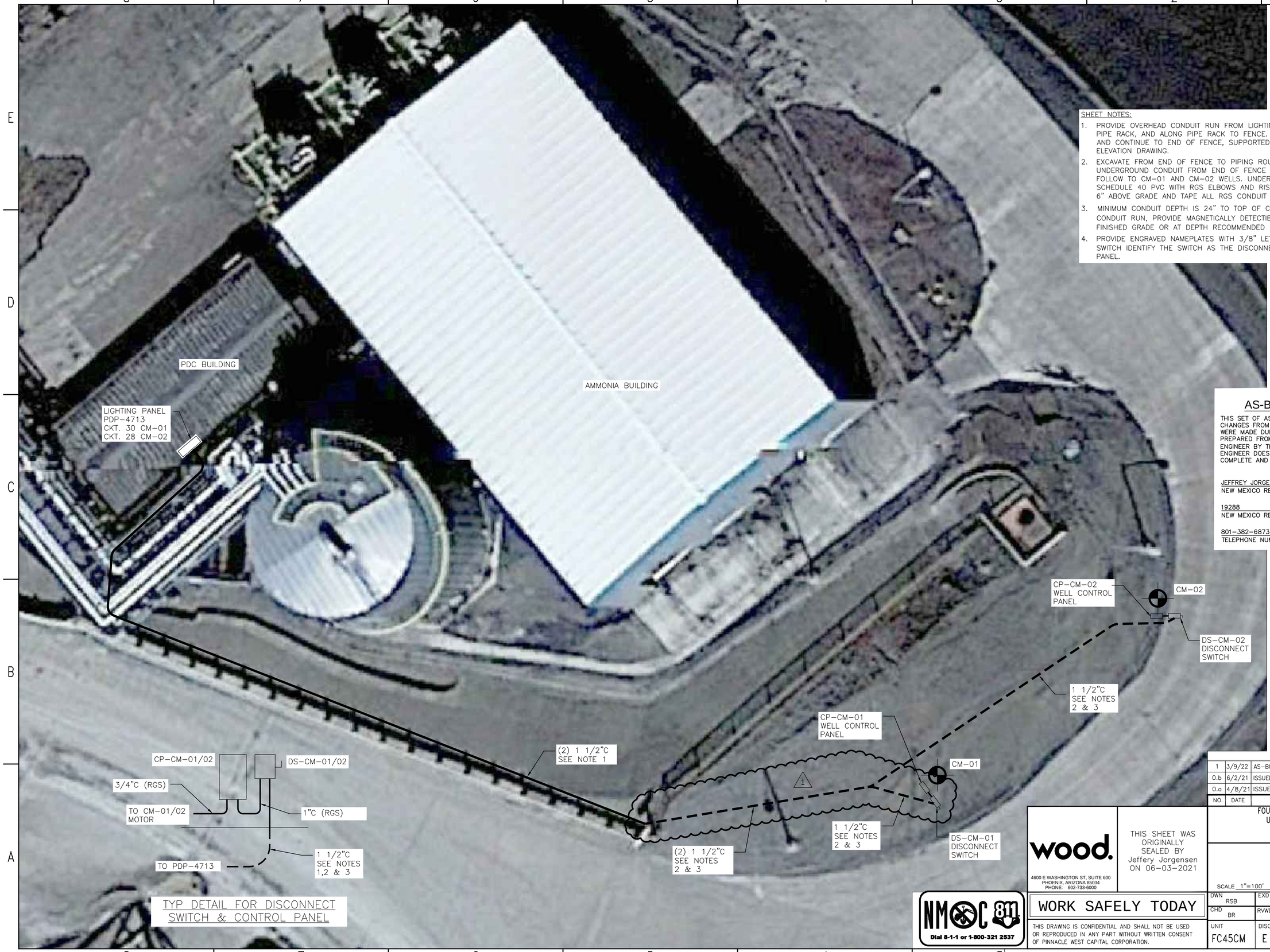
DWN	EXD	APPROVED	W A
RSB		MAREN HENLEY	FCC08902
CHD BR	RVWD JJ	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	61	EN	LM	163451	5



TYP DETAIL FOR DISCONNECT SWITCH & CONTROL PANEL

LEGEND

- - - - BELOW GRADE CONDUIT

——— ABOVE GRADE CONDUIT

SHEET NOTES:

1. PROVIDE OVERHEAD CONDUIT RUN FROM LIGHTING PANEL THROUGH PDC WALL TO PIPE RACK, AND ALONG PIPE RACK TO FENCE. DROP FROM PIPE RACK TO FENCE AND CONTINUE TO END OF FENCE, SUPPORTED BY FENCE STRUCTURE. SEE ELEVATION DRAWING.
2. EXCAVATE FROM END OF FENCE TO PIPING ROUTE NEAR LIGHTING POLE. ROUTE UNDERGROUND CONDUIT FROM END OF FENCE TO PIPING HYDRO-EXCAVATION, AND FOLLOW TO CM-01 AND CM-02 WELLS. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC WITH RGS ELBOWS AND RISERS. EXTEND RISERS A MINIMUM OF 6" ABOVE GRADE AND TAPE ALL RGS CONDUIT WITH SCOTCHWRAP 50 PLC TAPE.
3. MINIMUM CONDUIT DEPTH IS 24" TO TOP OF CONDUIT. OVER EACH DUCT BANK OR CONDUIT RUN, PROVIDE MAGNETICALLY DETECTIBLE WARNING TAPE 12" BELOW FINISHED GRADE OR AT DEPTH RECOMMENDED BY WARNING TAPE MANUFACTURER.
4. PROVIDE ENGRAVED NAMEPLATES WITH 3/8" LETTERING FOR EACH DISCONNECT SWITCH IDENTIFY THE SWITCH AS THE DISCONNECT FOR THE WELL PUMP CONTROL PANEL.

AS-BUILT CERTIFICATION

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4600 E WASHINGTON ST. SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

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FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
CONDUIT ROUTING PLAN

aps

SCALE 1"=100' DATE 4/8/2021

NMOC 811
Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

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DWN	EXD	APPROVED	W A
RSB		MAREN HENLEY	FCC08902
CHD BR	RVWD JJ	DRAWING APPROVED BY	

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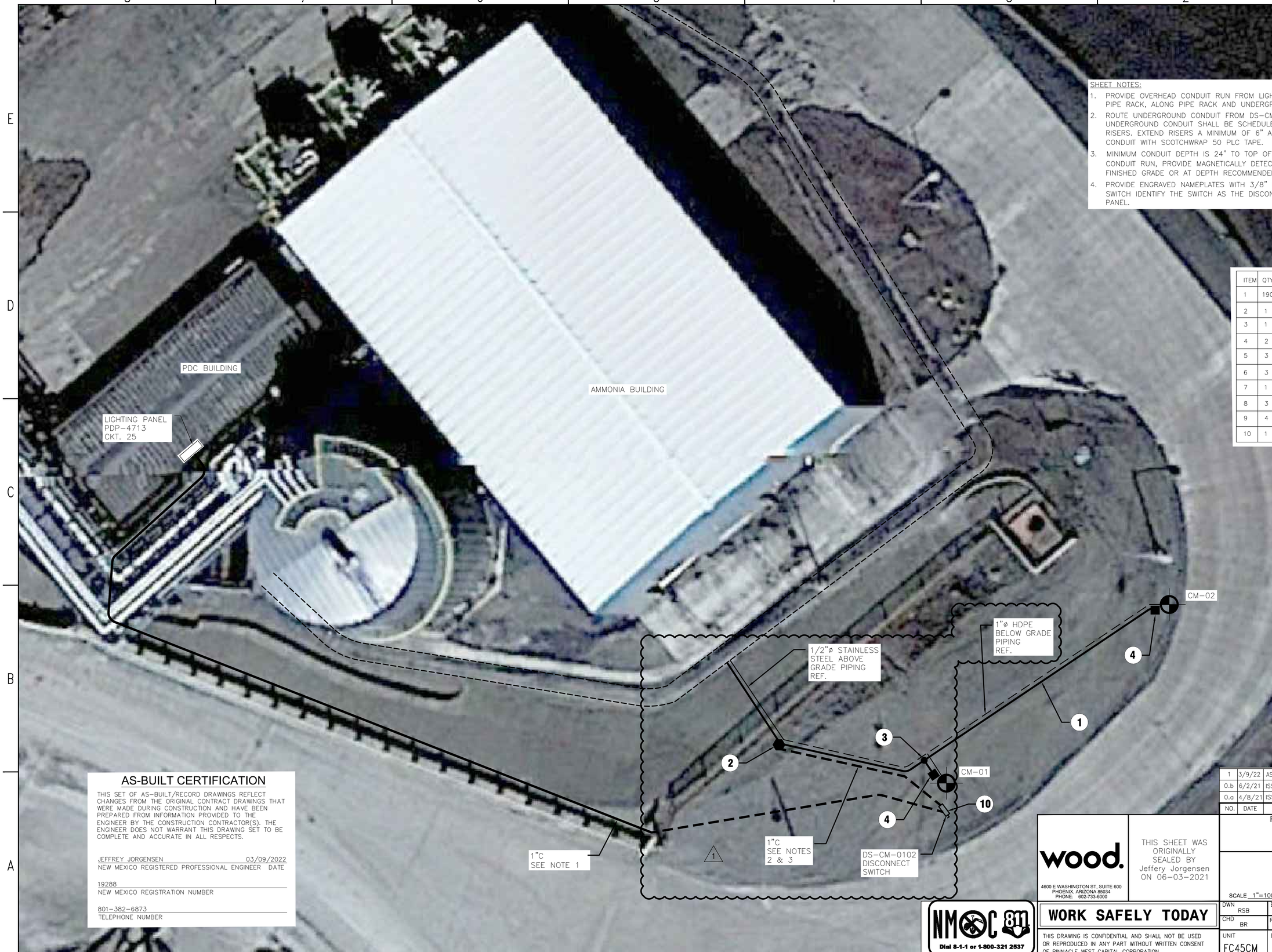


LEGEND

BELOW GRADE CONDUIT

ABOVE GRADE CONDUIT

SHEET NOTES:

1. PROVIDE OVERHEAD CONDUIT RUN FROM LIGHTING PANEL THROUGH PDC WALL TO PIPE RACK, ALONG PIPE RACK AND UNDERGROUND CONDUIT TO DS-CM-0102.
2. ROUTE UNDERGROUND CONDUIT FROM DS-CM-0102 TO THE POWER CONNECTION. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC WITH RGS ELBOWS AND RISERS. EXTEND RISERS A MINIMUM OF 6" ABOVE GRADE AND TAPE ALL RGS CONDUIT WITH SCOTCHWRAP 50 PLC TAPE.
3. MINIMUM CONDUIT DEPTH IS 24" TO TOP OF CONDUIT. OVER EACH DUCT BANK OR CONDUIT RUN, PROVIDE MAGNETICALLY DETECTIBLE WARNING TAPE 12" BELOW FINISHED GRADE OR AT DEPTH RECOMMENDED BY WARNING TAPE MANUFACTURER.
4. PROVIDE ENGRAVED NAMEPLATES WITH 3/8" LETTERING FOR EACH DISCONNECT SWITCH IDENTIFY THE SWITCH AS THE DISCONNECT FOR THE WELL PUMP CONTROL PANEL.

PARTS LIST

ITEM	QTY	DESCRIPTION
1	190	SRL 3-1CT 3W/FT, 120V, PART # 383400
2	1	UBC POWER CONNECTION/T-STAT, 394011
3	1	RTST SPLICE & TEE, PART #389562
4	2	UESL LIGHTED END SEAL KIT, 394257
5	3	SPA – SMALL PIPE ADAPTER, PART #393609
6	3	PS-3 PIPE STRAP, PART #382360
7	1	AT-1 ALUMINIUM FOIL TAPE 2.5X180 FWHSE, PART #383355
8	3	CL-1 CAUTION LABEL KIT PACK OF 5, PART #382424
9	4	FT-3 3/8" GLS CLOTH TAPE 66FT, PART # 389941
10	1	NON-FUSIBLE DISCONNECT SWITCH, 60A, 2-POLE, 240VAC, SQ-D #DU222RB OR EQUAL

AS-BUILT CERTIFICATION

THIS SET OF AS-BUILT/RECORD DRAWINGS REFLECT CHANGES FROM THE ORIGINAL CONTRACT DRAWINGS THAT WERE MADE DURING CONSTRUCTION AND HAVE BEEN PREPARED FROM INFORMATION PROVIDED TO THE ENGINEER BY THE CONSTRUCTION CONTRACTOR(S). THE ENGINEER DOES NOT WARRANT THIS DRAWING SET TO BE COMPLETE AND ACCURATE IN ALL RESPECTS.

JEFFREY JORGENSEN 03/09/2022
NEW MEXICO REGISTERED PROFESSIONAL ENGINEER DATE

19288
NEW MEXICO REGISTRATION NUMBER

801-382-6873
TELEPHONE NUMBER

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	3/9/22	AS-BUILT	RSB	BR		JJ	MH	FCC08902
0.b	6/2/21	ISSUED FOR CONSTRUCTION	RSB	BR		JJ	MH	FCC08902
0.a	4/8/21	ISSUED FOR BID	RSB	BR		JJ	MH	FCC08902

wood.
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

THIS SHEET WAS ORIGINALLY SEALED BY Jeffery Jorgensen ON 06-03-2021

FOUR CORNERS GENERATING STATION
URS WELLS PUMP INSTALLATION
HEAT TRACE PLAN

aps

SCALE 1"=100' DATE 4/8/2021

NMOC 811
Dial 8-1-1 or 1-800-321 2537

WORK SAFELY TODAY

THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORPORATION.

DWN	EXD	APPROVED	W A
RSB		MAREN HENLEY	FCC08902
CHD BR	RVWD JJ	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
FC45CM	E	96	EN	LM	163451	7

APPENDIX

F

EVALUATION OF GROUNDWATER CONDITIONS DOWNGRADIENT OF MULTIUNIT 1

TECHNICAL MEMORANDUM

To:	Arizona Public Service Company 400 N 5th Street Phoenix Arizona 85004	**Project No.**	14-2022-2030
By:	Bruce Wielinga, PhD	**Reviewed by:**	Rebecca Weaver, PE
Date:	January 20, 2023		
Re:	**EVALUATION OF GROUNDWATER CONDITIONS DOWNGRADIENT OF MULTIUNIT 1** Four Corners Power Plant Fruitland, New Mexico		

INTRODUCTION

This Technical Memorandum (Tech Memo) has been prepared by WSP USA Environment & Infrastructure, Inc. (WSP) (formerly Wood Environment & Infrastructure Solutions Inc. [Wood]) to present the findings of an evaluation of historical and current groundwater conditions downgradient of the Southern Intercept Trench (SIT) located at the Arizona Public Service Company (APS) Four Corners Power Plant (the Site) in Fruitland, New Mexico. This Tech Memo was prepared in support of ongoing groundwater characterization requirements specified in 40 Code of Federal Regulations Sections 257.90 through 257.98, herein referred to as the Coal Combustion Residual (CCR) Rule (Federal Register, 2020).

A description of the Site background, groundwater monitoring network, and historical operational information is presented in the Annual Groundwater Monitoring and Corrective Action Report for 2021 (Wood, 2022a). Cobalt and molybdenum (also referred to as Constituents of Concern [COCs]), which are regulated under the CCR Rule's Appendix IV list, have been observed at concentrations in groundwater that exceed the groundwater protection standards (GWPSs) downgradient of Multiunit 1 (MU).

BACKGROUND

APS currently operates a 7,600-foot long intercept trench system, that was installed in two interconnected sections along the western boundary of the Site as shown on **Figure 1**. The North Intercept Trench (NIT) was constructed from April through September 2011 and was placed in service on October 31, 2011. The SIT, which is located hydraulically downgradient of Multiunit 1 and multiple closed surface impoundments, was constructed from February through December 2013 and was placed in service on December 6, 2013. The purpose of the SIT is to intercept and collect seepage from the closed surface impoundments and existing CCR units as it flows westward towards Chaco Wash, thus preventing any potential surface water and groundwater impacts to Chaco Wash. APS maintains a number of monitoring wells upgradient and downgradient of the intercept trench system to evaluate groundwater conditions in this vicinity; many of these wells were installed prior to trench construction but MW-87 is a relatively new well installed pursuant to the release characterization requirement in the CCR Rule that a well be placed at the facility boundary in the direction of contaminant migration (40 CFR §257.95 (g)(1)(iii)) **Figure 1**.

Monitoring well MW-87 was installed in November 2018 to monitor groundwater at the Site facility boundary downgradient of Multiunit 1. On several occasions from March 2019 to November 2020, MW-87 concentrations of cobalt and molybdenum were observed to exceed the GWPSs of 0.01 milligrams per liter (mg/L) and 0.1 mg/L, respectively, but data collected in the vicinity of MW-87 was inconsistent with the exceedances and suggested that

the elevated levels of cobalt and molybdenum were generally isolated and varied temporally. Another well exhibiting similar behavior downgradient of the SIT was MW-18 were cobalt concentrations ranged from 0.011 to 0.076 mg/L in 2020 but had been an order of magnitude less when monitoring previously occurred in 2009. The spatial isolation of elevated concentrations of COCs at these wells as well as the variation of concentrations with time indicated possible anomalous COC concentrations at MW-87 and MW-18 relative to the nearby wells.

In January 2021, Wood published a Tech Memo entitled *Evaluation of Elevated Cobalt & Molybdenum Concentrations at MW-87* (Wood, 2021). In that 2021 Tech Memo, several possible conditions were proposed that might explain the anomalous concentrations of COCs at MW-87.

The proposed conditions were:

- Difficulties developing MW-87 and very low water levels during initial sampling events,
- Possible contributions from surface water from Chaco Wash, and
- The possible influence of irrigation return flows on the water quality in Chaco Wash.

To better understand groundwater hydro-geochemistry in the vicinity of MW-87, quarterly monitoring of an expanded set of monitoring wells upgradient and downgradient of the SIT was initiated in the 4th quarter of 2021. The locations of the wells relative to the SIT are shown in **Table 1**. In addition to the increased frequency of sampling and analysis, water level transducers were installed in a subset of the wells to continuously record water levels. In addition, in January 2022 a stream flow monitoring station was installed in Chaco Wash as shown on **Figure 1**.

Table 1. Monitoring well location relative to the SIT.

Well Location Relative to the SIT	Well ID
Upgradient of SIT	MW-17R, MW-36R, MW-38R, MW-60
Downgradient of SIT	DMX-03, DMX-04, DMX-06, MW-05, MW-06, MW-15, MW-18, MW-24, MW-56, MW-57, MW-87

In the following sections, the current groundwater conditions are discussed, and concepts presented in the 2021 Tech Memo are revisited.

CURRENT GROUNDWATER CONDITIONS

Historical data and data collected during the quarterly and biannual sampling through the 3rd Quarter of 2022 at the Site is provided in **Table 2**. **Figures 2** and **3** present the inferred iso-concentration plots of cobalt and molybdenum in groundwater downgradient of Multiunit 1 based on the most recent analytical data collected in November of 2022. The concentrations of cobalt and molybdenum at wells MW-87, MW-18, and several other wells downgradient from the SIT versus time are shown on **Figures 4** and **5**. These figures show that although there have been sporadic exceedances of GWPSs for cobalt and molybdenum in monitoring wells located downgradient of the trench, recurring elevated concentrations of COCs have been limited to MW-87 and MW-18. The elevated levels of cobalt and/or molybdenum observed at MW-87 occurred during the first three monitoring rounds this well was sampled (in March, May, and June of 2019) and again during the seventh time the well was sampled (in November 2020); cobalt and molybdenum concentrations have remained less than GWPSs since that time. At existing well MW-18, cobalt concentrations exceeded the GWPS during the first four events that sampling had been reinitiated at this well (from June 2020 through November 2021); cobalt concentrations were less than the GWPS in samples collected before and after this period. The downgradient monitoring wells at which a cobalt or molybdenum exceedance have occurred once include DMX-3 (cobalt at 0.011 mg/L in November 2020), MW-24 (molybdenum at 0.15 mg/L in April 2021), MW-56 (cobalt at 0.25 mg/L in February 2022) and MW-57 (molybdenum at 0.15 mg/L in May 2019).Given the consistency

of the other data collected from these wells and the generally low level exceedances observed, these elevated concentrations are likely attributable to sampling and/or analytical anomalies.

The 2021 Tech Memo indicated that the groundwater quality downgradient of Multiunit 1 is very heterogeneous. Stiff diagrams showing the major ion chemistry at several wells downgradient of the SIT are shown on **Figure 6**. These diagrams show that there are significant differences in the concentrations of major ions over relatively small distances. DMX-06 and MW-87 are approximately 275 feet ft) apart and yet the concentrations of magnesium, sodium, chloride, and sulfate are roughly 5 times higher at MW-87 as compared to DMX-06 although both wells are screened in the Weathered Lewis Shale.

Groundwater at wells upgradient of the SIT have different chemistry from wells downgradient as seen on **Figures 6** and **7**. Wells upgradient of the SIT generally have lower concentrations of TDS as shown on **Figures 7** and **8** and much higher concentrations of boron as shown on **Figure 9**. There are very large differences between boron in wells upgradient versus downgradient from the SIT. Concentrations of TDS vary greatly in wells downgradient of the SIT and range from a median of 7,880 mg/L at well MW-15 to a median of 29,500 at well MW-87 due to the heterogeneity of the groundwater at the Site with respect to major ion concentrations. Wells MW-05, MW-06, MW-18, and MW-87 have the highest concentrations of TDS.

These differences suggest that the ratio of boron to TDS (B:TDS) might be a good signature for differentiating between groundwater that has and has not been affected by seepage from Multiunit 1. Box plots showing the B:TDS ratio at background wells MW-49A and MW-74 along with wells downgradient of Multiunit 1 but upgradient of the SIT are shown on **Figure 10**. The B:TDS ratios at wells downgradient of Multiunit 1 and affected by seepage are about 30 to 80 times greater than the ratios in background wells. Box plots of the B:TDS ratio for these wells plus other wells downgradient of Multiunit 1 and the SIT are shown on **Figure 11**. From this plot, the B:TDS ratios at wells DMX-03, DMX-04, MW-05, MW-18, and MW-87 are equivalent to background ratios. Thus, while concentrations of COCs have been observed to exceed the GWPS sporadically at MW-18 and MW-87, the very low boron concentrations, and very low B:TDS ratios indicate that the groundwater at these wells is not being affected by seepage from Multiunit 1 and that the cobalt and molybdenum did not originate from Multiunit 1. In contrast, there are slightly higher concentrations of boron and B:TDS ratios at DMX-06, MW-06, and MW-15 suggesting these wells may have been affected by seepage historically, but concentrations of boron have been decreasing over time and since the installation of the SIT. These data indicate that the SIT is performing as designed and preventing migration seepage affected groundwater to Chaco Wash.

The concentration of boron over time at select wells downgradient of the SIT are shown on **Figure 12**. These plots are consistent with the box plots on **Figure 11** showing that boron concentrations at wells DMX-06, MW-06, and MW-15 are greater than at neighboring wells and background. Boron concentrations at MW-15 and MW-06 started to increase around 1992 and 1998, respectively, but a decreasing trend has been observed since approximately 2007 and has continued to decrease since the SIT became operational. The concentration of boron has also generally been decreasing at DMX-06 since it was first measured in May of 2015. This provides some evidence that monitored natural attenuation (MNA) may be a viable remedial option coupled with hydraulic containment, as boron is decreasing with time at wells downgradient of the SIT.

POTENTIAL CAUSES OF GWPS EXCEEDANCES

As discussed above, the very low boron concentrations and low B:TDS ratios at wells MW-18 and MW-87 indicate that groundwater at these wells have not been affected by seepage from Multiunit 1 and by extension, the cobalt and/or molybdenum sporadically observed above the GWPS at these wells likely did not come from Multiunit 1.

It is possible that the elevated concentrations result from naturally occurring cobalt and molybdenum present in aquifer materials that were not sufficiently removed from groundwater during the sampling process due to

inadequate well design or development. Since the CCR Rule does not allow groundwater filtration as part of the sampling process, consistent and representative inorganic compound concentrations in sampled wells are achieved by a well filter pack that removes fines from groundwater during the sampling process. Development of MW-87 after installation was very difficult due to very low water levels as discussed in the 2021 Tech Memo. This may have resulted in the elevated concentrations of cobalt observed at this well because the filter pack likely still contained a significant amount of fines that were not removed prior to implementing a sampling program. As the well was sampled and water levels increased and stabilized over time, the concentration of cobalt decreased to its current concentration of 0.0069 mg/L. This mechanism may not directly apply for the concentration of cobalt exceeding the GWPS at existing well MW-18 but without routine sampling of an existing well, sediment could accumulate in a well and theoretically impact inorganic compound concentrations until the fines are removed from the well.

An alternative hypothesis for MW-18 is associated with the significant change in water levels observed at this location after intercept trench operations began. The concentration of cobalt at MW-18 was quite low prior to 2010 with a median concentration from 2004 to 2009 of 0.0022 mg/L. Concentrations then increased by about an order of magnitude to a concentration of 0.011 mg/L during the 2nd quarter of 2020 (**Figure 4**). In the interim, water levels in MW-18 decreased by 7.5 ft since the SIT became fully operational in 2013. These decreasing water levels could potentially result in evapoconcentration of the COCs as has been observed for metals in arid regions of the U.S. (Welch and Lico 1998).

The 2021 Tech Memo also suggested that a potential source for the elevated concentrations observed in MW-87 may have been surface water from the Chaco Wash. During investigations in 2020 it was determined based on an aerial topographic survey that the land surface elevation of Chaco Wash of 5,048 ft above mean sea level (amsl) was above the groundwater elevation in MW-87 by 1.71 ft. It was observed that the groundwater elevation measured at several other wells near MW-87 were also below the Chaco Wash elevation, including DMX-06 (5046.89 ft amsl), MW-06 (5045.98 ft amsl), EW-14 (5044.24 ft amsl), and EW-15 (5044.26 ft amsl). These differences between the elevation of Chaco Wash and the groundwater elevations suggested that this section of Chaco Wash may be a losing reach and that these wells may intercept a zone of saturation caused by the infiltration of surface water from Chaco Wash.

Prior to January 2022, there was no surface water flow monitoring in Chaco Wash adjacent to the Site and there was limited water quality data for the COCs. Downgradient water quality data collected from former United States Geological Survey Station Number 09367950 in Chaco Wash (approximately eight miles downstream from the Site; see Attachment A) indicates variable concentrations of cobalt (0.010 and 1.6 mg/L) from 1969 and 1994 and only one reportable sample concentration for molybdenum (0.078 mg/L) (USGS, 2020). Water quality sampling conducted in Chaco Wash upstream and downstream of the Site in 2008 and 2009 also reported highly variable concentrations of cobalt. Total cobalt concentrations ranged from less than 0.01 to 0.34 mg/L (upstream and downstream sample concentrations were essentially equivalent). Total molybdenum concentrations were less variable and ranged less than 0.01 to 0.03 mg/L. Thus, if the section of Chaco Wash adjacent to the Site is a losing reach, Chaco Wash could also be a source of sporadic elevated concentrations of cobalt and molybdenum in groundwater monitored by nearby wells.

APS installed a stream gauge in Chaco Wash in November of 2021, and it became operational in February of 2022, to collect water level data. In addition, WSP installed 12 transducers in November 2021 in select wells downgradient of Multiunit 1 as shown on **Figure 1**. Water levels from the transducer data and the elevation of Chaco Wash from the stream gauge are shown on **Figure 13**. Groundwater levels in four wells including DMX-04, MW-06, MW-46, and MW-87 are all below the elevation of Chaco Wash. A hydrogeologic cross section showing groundwater elevations and the elevation of Chaco Wash is presented as **Figure 14**. These data are consistent with previous observations and suggest that the section of Chaco Wash adjacent to the Site could be a losing reach and surface water infiltration could contribute to the variable groundwater quality observed at several wells downgradient of Multiunit 1.

CONCLUSIONS AND RECOMMENDATIONS

In November of 2021, APS initiated a quarterly groundwater sampling program at the Four Corners Power Plant to better understand groundwater chemistry and evaluate conditions that might cause sporadic COC exceedances at wells downgradient of Multiunit 1 and the SIT, specifically MW-18 and MW-87. In addition, water level transducers were installed in 12 wells and a stream flow gauge was installed in Chaco Wash to better understand the Site hydrology.

From the evaluation of historical and the more recent data collected since 4th quarter 2021, the following conclusions have been developed.

- Sporadic exceedances of COCs have been observed at wells downgradient of Multiunit 1 and the SIT including at DMX-3, MW-18, MW-24, MW-56, MW-57, and MW-87. Most of these exceedances are single events that are likely attributed to sampling and/or analytical inconsistencies but the elevated COCs concentrations observed at MW-18 and MW-87 were more sustained and are more difficult to attribute to a specific cause.
- The concentrations of cobalt and molybdenum at monitoring wells downgradient of the SIT are now currently below their respective GWPSs.
- The concentration of boron is much greater in wells affected by seepage from Multiunit 1 than in background and unaffected wells and the concentration of TDS is generally greater in background and unaffected wells than in affected wells. This makes the ratio of B:TDS a good signature for groundwater affected by seepage from Multiunit 1. The concentration of boron and the B:TDS ratio at wells MW-18, and MW-87 are equivalent to background and indicate that the elevated concentrations of cobalt and molybdenum are not the result of seepage from Multiunit 1. This suggests that the source of cobalt and molybdenum observed at these wells is not Multiunit 1 and that the SIT is performing as designed and preventing seepage migration.
- The source of the cobalt and molybdenum exceedances at MW-18 and MW-87 is not definitively known but could be attributed to: the presence of aquifer fines in samples that contain these naturally occurring inorganic compounds due to inadequate well development or a significant period of well disuse; evapoconcentration of metals due to dewatering of the aquifer caused by trench operations; and/or contributions of cobalt and molybdenum from Chaco Wash which based on stream monitoring and surrounding groundwater level data appears to be a losing reach along the Site boundary where MW-87 in particular is located.
- Water levels in wells upgradient of the SIT are 10 ft to 30 ft higher than water levels at wells downgradient of the SIT also indicating that the SIT is performing as designed and preventing migration of seepage affected groundwater.

Recent groundwater investigations at the Four Corners Power Plant have shown that none of the monitoring wells downgradient of Multiunit 1 and downgradient of the SIT currently have concentrations of cobalt or molybdenum above their respective GWPSs. The data presented above indicate that the SIT is performing as designed and is preventing contaminated groundwater from migrating toward Chaco Wash. It is recommended that APS continues with the groundwater monitoring prescribed in the CCR Rule. Because concentrations of boron have been decreasing at wells downgradient of the SIT since it became operational, it is also recommended that evaluation of monitored natural attenuation as a possible component of the final remedy selection be continued.

BIBLIOGRAPHY

- Federal Register, 2020. 40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule promulgated at 80 FR 21468 on April 17, 2015 with amendments issued through November 12, 2020.

- United States Geological Survey (USGS) National Water Information System, 2020. Historic Water quality Information obtained from Gauging Station Number 09367950, URL address https://nwis.waterdata.usgs.gov/nm/nwis/qwdata/?site_no=09367950&agency_cd=USGS
- Welch, A. H. and M. S. Lico (1998). "Factors controlling As and U in shallow ground water, southern Carson Desert, Nevada." Appl. Geochem. **13**(4): 521-539.
- Wood Environment and Infrastructure Solutions, Inc. (Wood), 2020a. Annual Groundwater Monitoring and Corrective Action Report for 2019. Coal Combustion Residual Rule Groundwater Monitoring System Compliance. Arizona Public Service Four Corners Power Plant, Fruitland, New Mexico. Report dated January 31, 2020.
- Wood, 2021. Evaluation of Elevated Cobalt & Molybdenum Concentrations at MW-87. Arizona Public Service Company Four Corners Power Plant, Fruitland, New Mexico. Report dated January 31, 2021.

ATTACHMENTS

FIGURES

Figure 1 – Site Location Map
Figure 2 – Cobalt Iso-concentration Map November 2022
Figure 3 – Molybdenum Iso-concentration Map November 2022
Figure 4 – Cobalt Concentrations at Wells Downgradient of MU
Figure 5 – Molybdenum Concentrations at Wells Downgradient of MU
Figure 6 – Stiff Diagrams of Wells Downgradient of MU
Figure 7 – Durov Diagrams of Wells Downgradient of MU
Figure 8 – Box Plots of TDS at Wells Downgradient of MU
Figure 9 – Box Plots of Boron at Wells Downgradient of MU
Figure 10 – Box Plots of Boron:TDS Ratio at Background Wells and Wells Downgradient of MU and Upgradient of SIT
Figure 11 – Box Plots of Boron:TDS Ratio at Background Wells and Wells Downgradient of MU
Figure 12 – Boron Concentrations at Select Wells Downgradient of MU and SIT
Figure 13 – Hydrograph of Select Wells Downgradient of MU and Chaco Wash
Figure 14 – Cross Section C

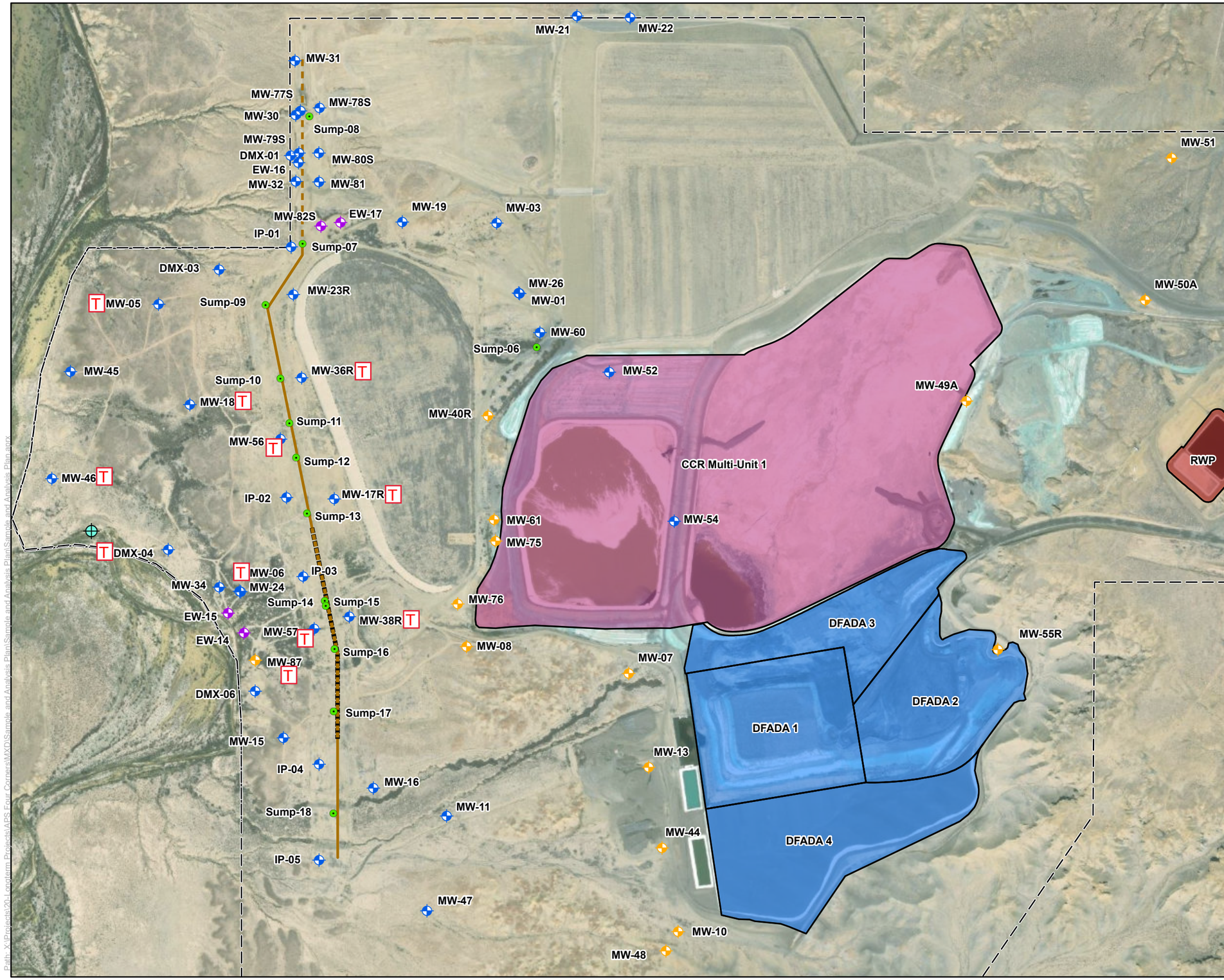
TABLES

Table 1 – Monitoring well location relative to the SIT (in text)
Table 2 – Water Quality Data

Please be advised that, effective September 21, 2022, Wood Environment & Infrastructure Solutions, Inc. was acquired by WSP. due to the acquisition, we have changed our name to WSP USA Environment & Infrastructure Inc. no other aspects of our legal entity or capabilities have changed for this report, including our Federal Tax ID which remains 91-1641772. correspondence for this report should continue to be addressed to the undersigned.

ATTACHMENT

FIGURES



Legend

- CCR Monitoring Well Location
- Extraction Well Location
- Supplementary Site Monitoring Well Location
- Chaco Wash Stream Monitoring Station (Approximate Location)
- Sump Location
- FCPP Lease Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Multiunit 1(LAI and LDWP)
- Dry Fly Ash Disposal Area (DFADA)
- Return Water Pond (RWP)
- T Transducer in well

Notes and Abbreviations:

MW-51	Well Identification
CCR	Coal Combustion Residuals
CWTP	Combined Waste Treatment Pond
DFADA	Dry Fly Ash Disposal Area
FCPP	Four Corners Power Plant
RWP	Return Water Pond
URS	Upper Retention Sump

0 850 1,700 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

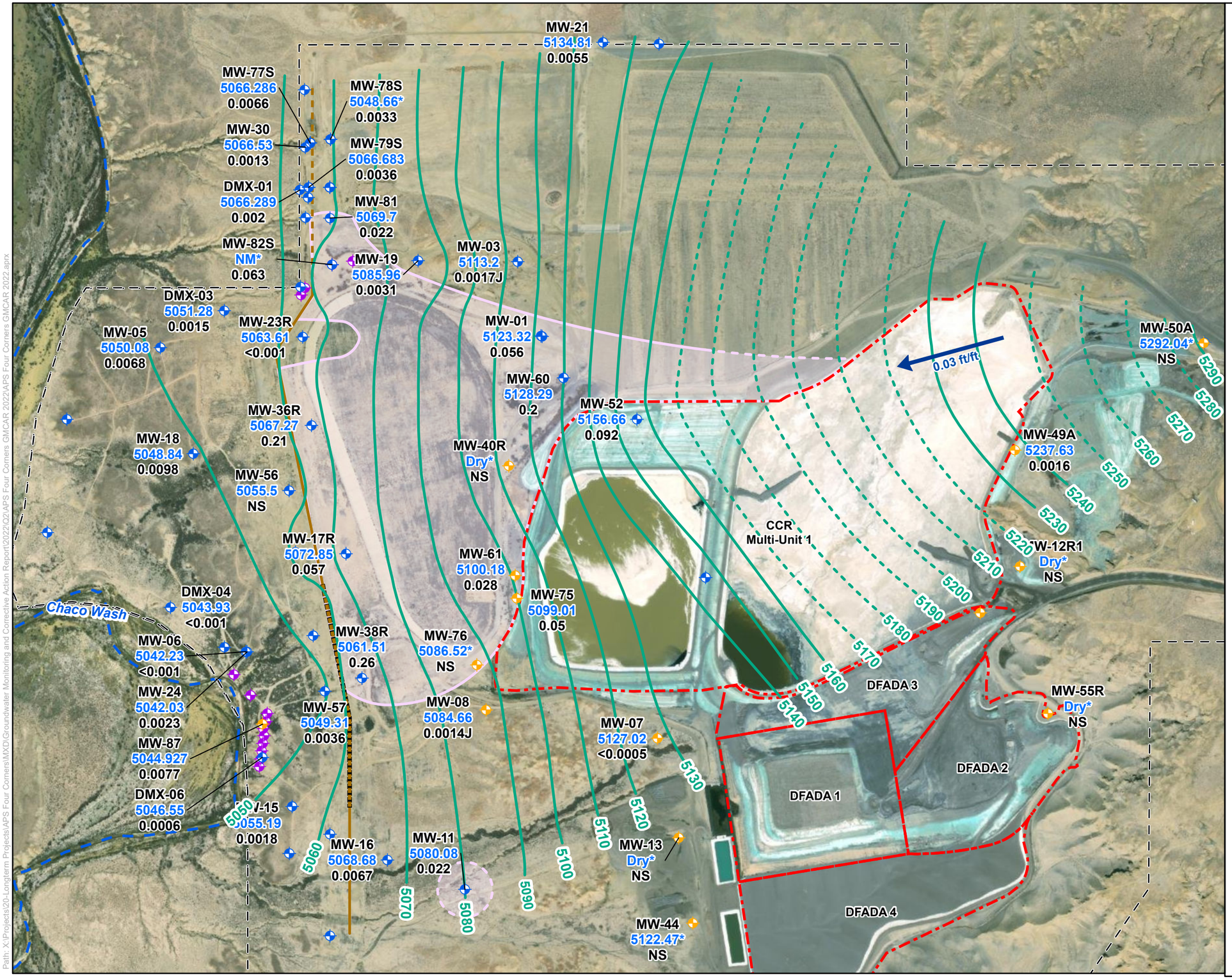
FIGURE 1

Multiunit 1, DFADA, and Supplementary Monitoring System Summary

Job No.	14-2022-2030
PM:	MBH
Date:	5/3/2022
Scale:	1" = 850'

The map shown here has been created with all due and reasonable care and is strictly for use with Wood Environment & Infrastructure Solutions, Inc. Project Number 14-2022-2006. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood Environment & Infrastructure Solutions, Inc. assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

Path: X:\Projects\20-Longterm Projects\APS Four Corners\MXD\Sample and Analysis Plan\Sample and Analysis Plan\Sample and Analysis Plan.aprx



Legend

- CCR Unit Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Four Corners Power Plant Lease Boundary
- Groundwater Elevation Contour (ft amsl) 10-Foot Contour Interval (Dashed Where Inferred)
- FlowDirection

Cobalt Concentration in Groundwater (SA1 2022)

- 0.01 mg/L
- GWPS (0.01 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

MW-52	Well Identification
5156.66	Groundwater Elevation (ft amsl)
0.092	Cobalt concentration (mg/L)
NS	Not Sampled
*	Well not used in potentiometric surface mapping
J	Result is estimated quantity
ft amsl	Feet above mean sea level
mg/L	Milligrams per Liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800 1,600 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 2

Cobalt Iso-Concentration Map for MultiUnit 1 - Nov 2022

Job No.	14-2022-2030
PM:	MBH
Date:	12/14/2022
Scale:	1" = 800'

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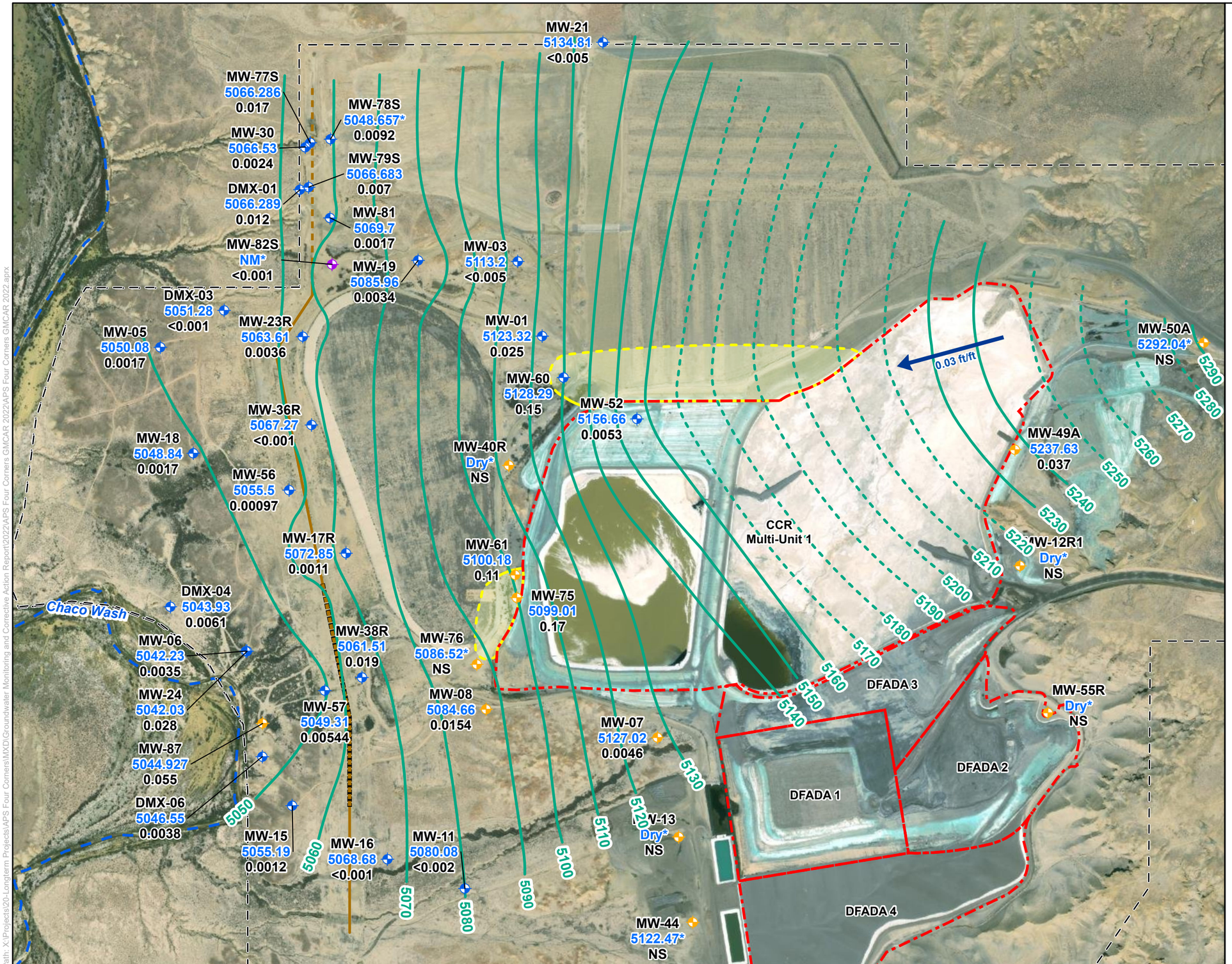

Legend

- CCR Monitoring Well Location
- Supplementary Site Monitoring Well Location
- Extraction Well Location
- CCR Unit Boundary
- North Intercept Trench
- South Intercept Trench
- Approximate Extent of High Flow Zone
- Four Corners Power Plant Lease Boundary
- Groundwater Elevation Contour (ft amsl) 10-Foot Contour Interval (Dashed Where Inferred)
- FlowDirection

Molybdenum Concentration in Groundwater (SA1 2022)

- 0.1 mg/L
- GWPS (0.1 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

MW-52	Well Identification
5156.66	Groundwater Elevation (ft amsl)
0.0053	Molybdenum concentration (mg/L)
NS	Not Sampled
*	Well not used in potentiometric surface mapping
J	Result is estimated quantity
ft amsl	Feet above mean sea level
mg/L	Milligrams per Liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800 1,600 Feet

N

Arizona Public Service
Four Corners Power Plant
Fruitland, New Mexico

FIGURE 3

Molybdenum Iso-Concentration Map for MultiUnit 1 - Nov 2022

Job No.	14-2022-2030
PM:	MBH
Date:	9/29/2022
Scale:	1" = 800'

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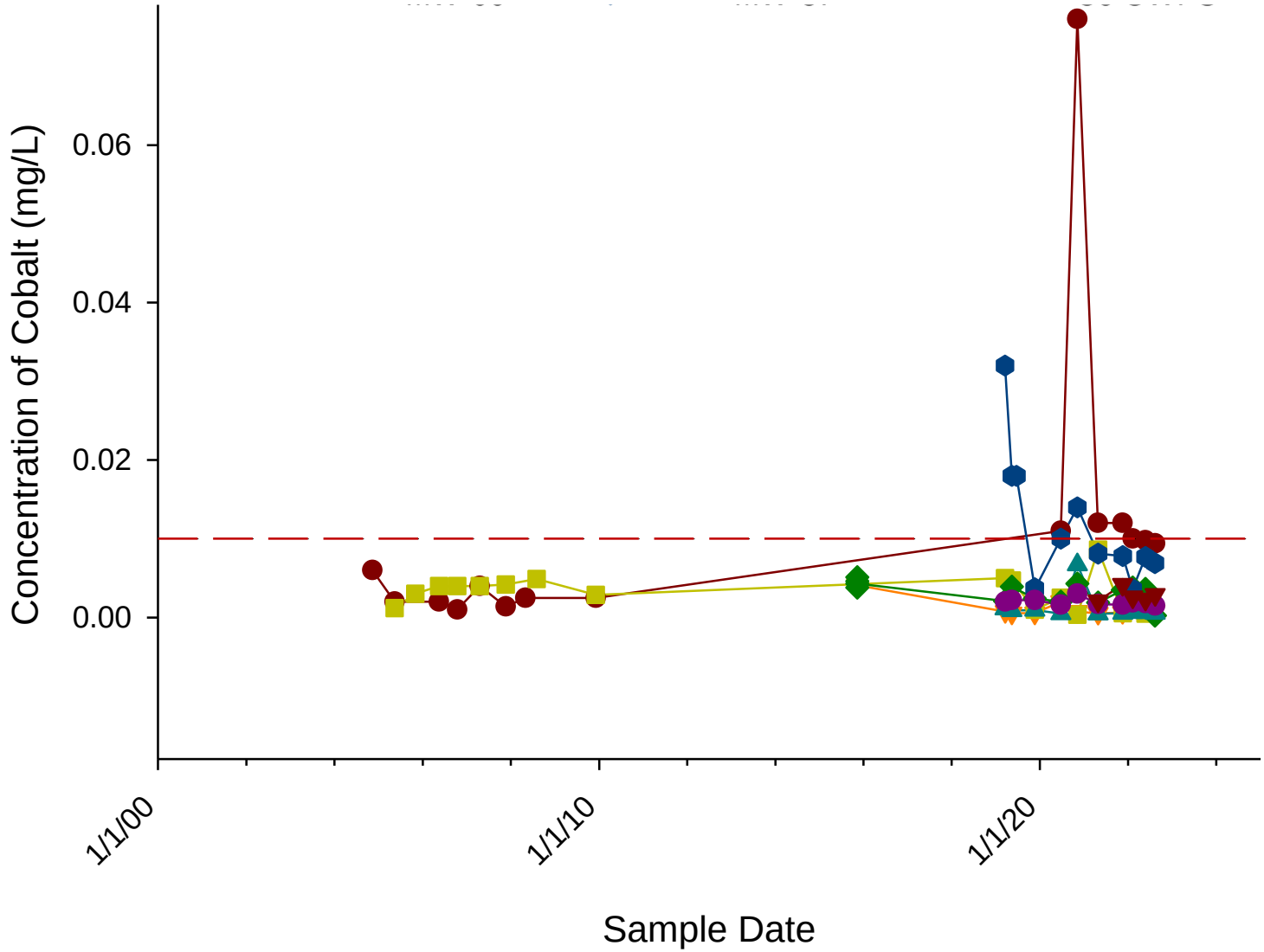
Path: X:\Projects\20-Longterm Projects\APS Four Corners\MXD\Groundwater Monitoring and Corrective Action Report\2022\APS Four Corners GMCAR 2022\APS Four Corners GMCAR 2022.aprx

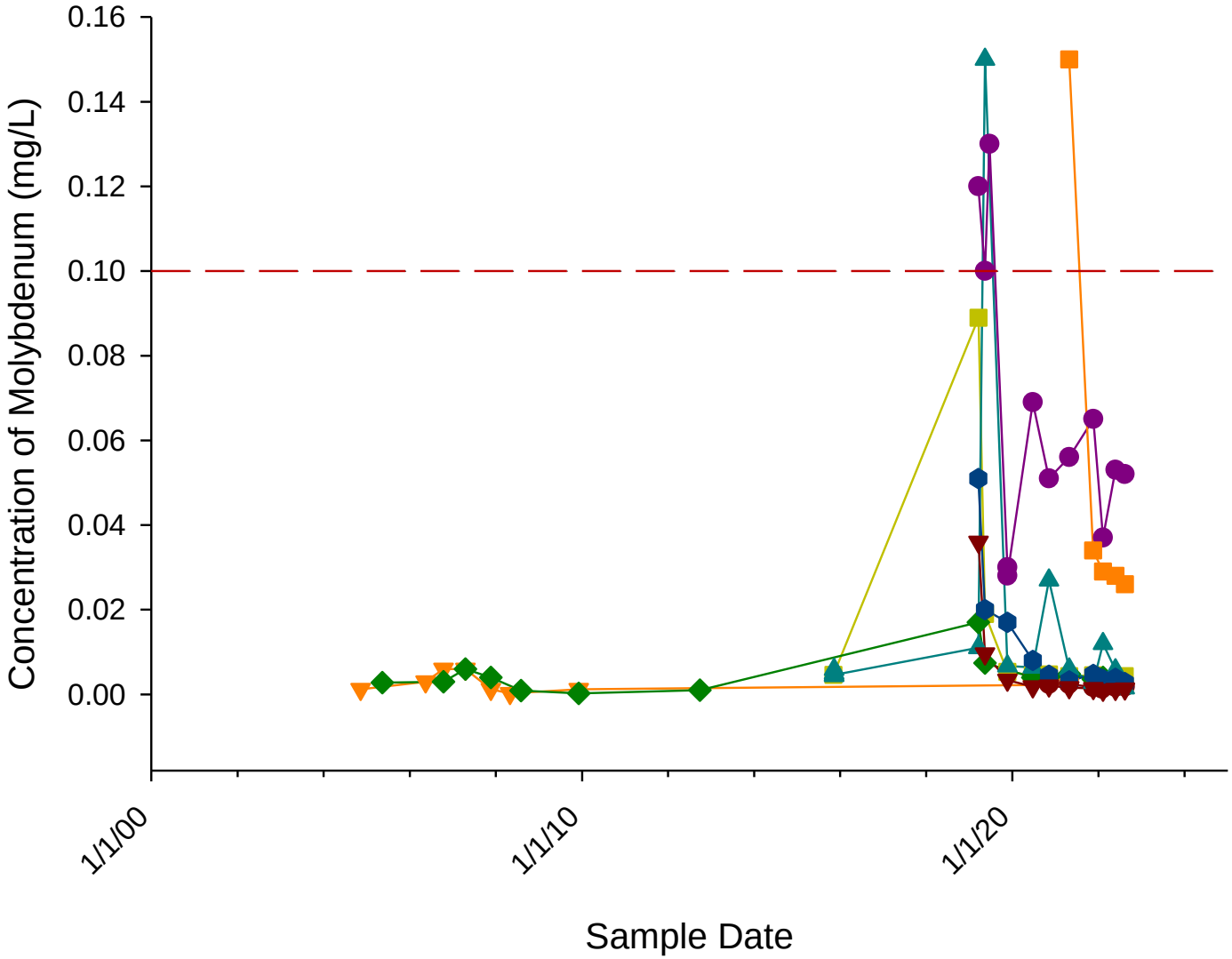


Notes:
1) Co GWPS = cobalt groundwater protection standard =0.01 mg/L

MW-18 MW-57 MW-15
MW-56 DMX-06 MW-24
MW-06 MW-87 Co GWPS

CONCENTRATIONS OF COBALT AT WELLS DOWNGRADIENT OF MULTIUNIT 1
Four Corners Power Plant
Fruitland, New Mexico

wsp	Date: 11/11/2022	Project No. 1420222030
	By: BWW	**Figure 4**

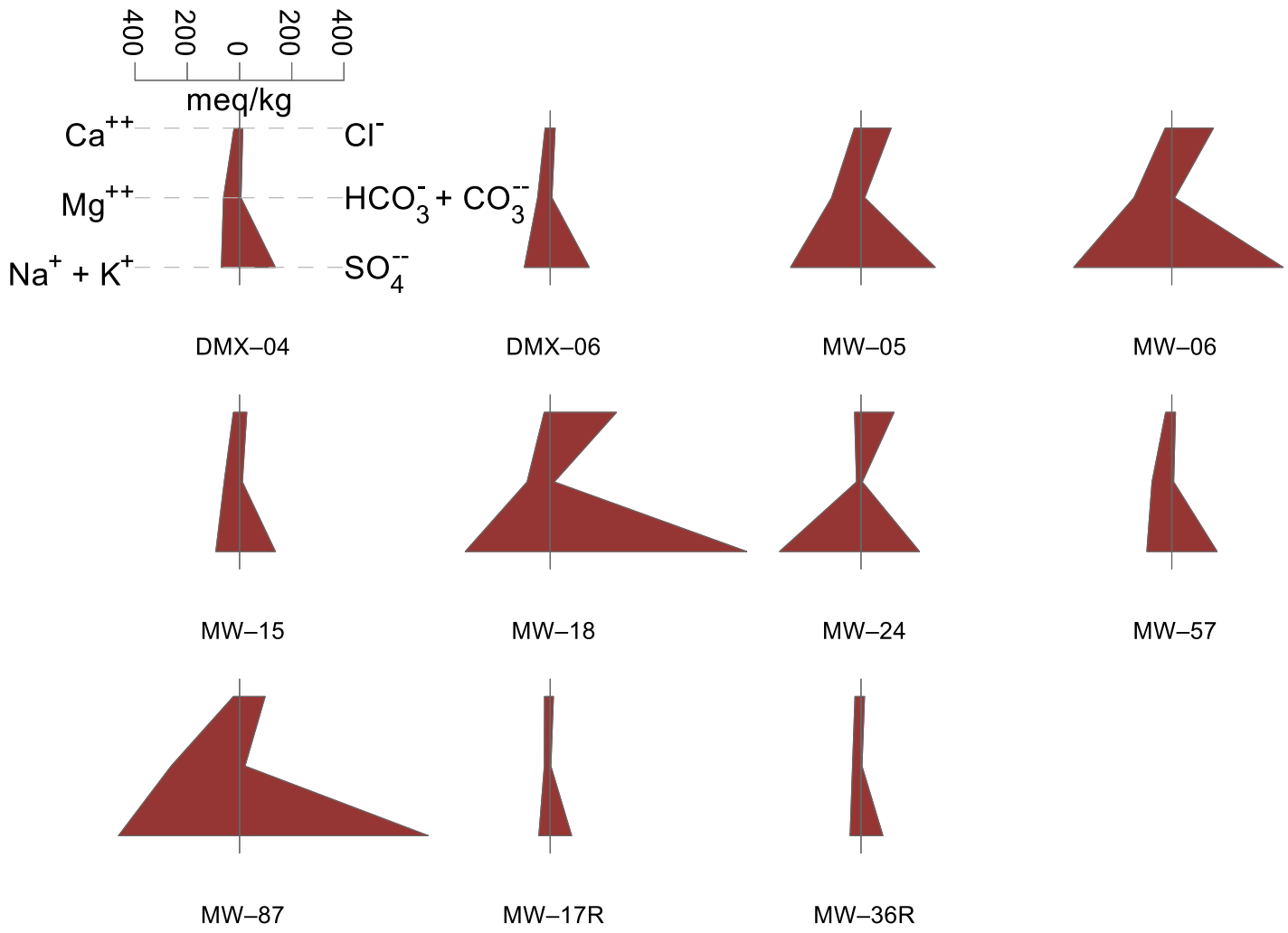


Notes:
1) Mo GWPS = molybdenum groundwater protection standard.

MW-05
MW-18
MW-56
MW-06
MW-57
DMX-06
MW-87
MW-15
MW-24
Mo GWPS

CONCENTRATIONS OF
MOLYBDENUM AT WELLS
DOWNGRADIENT OF MULTIUNIT 1
Four Corners Power Plant
Fruitland, New Mexico

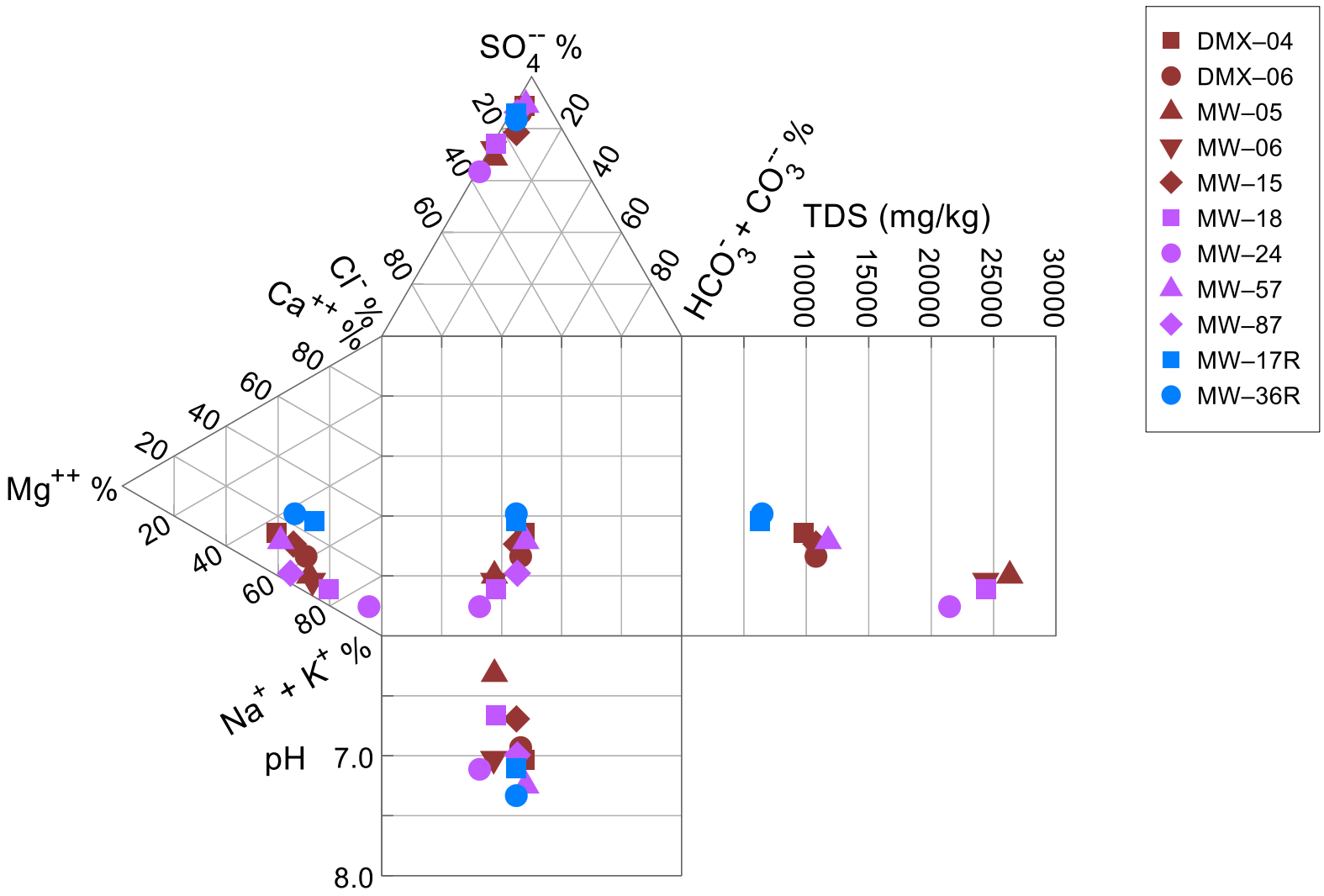
WSP	Date: 11/11/2022	Project No. 1420222030
	By: BWW	**Figure 5**



Notes:
1. Wells DMX-04, DMX-06, MW-05, MW-06, MW-15, MW-18, MW-24, MW-57, and MW-87 are downgradient of the SIT.
2. Wells MW-17R and MW-36R are upgradient of the SIT.

STIFF DIAGRAMS SHOWING MAJOR IONS AT WELLS DOWNGRADIENT OF MULTIUNIT 1
Four Corners Power Plant
Fruitland, New Mexico

wsp	Date: 11/11/2022	Project No. 1420222030
	By: BWW	**Figure 6**

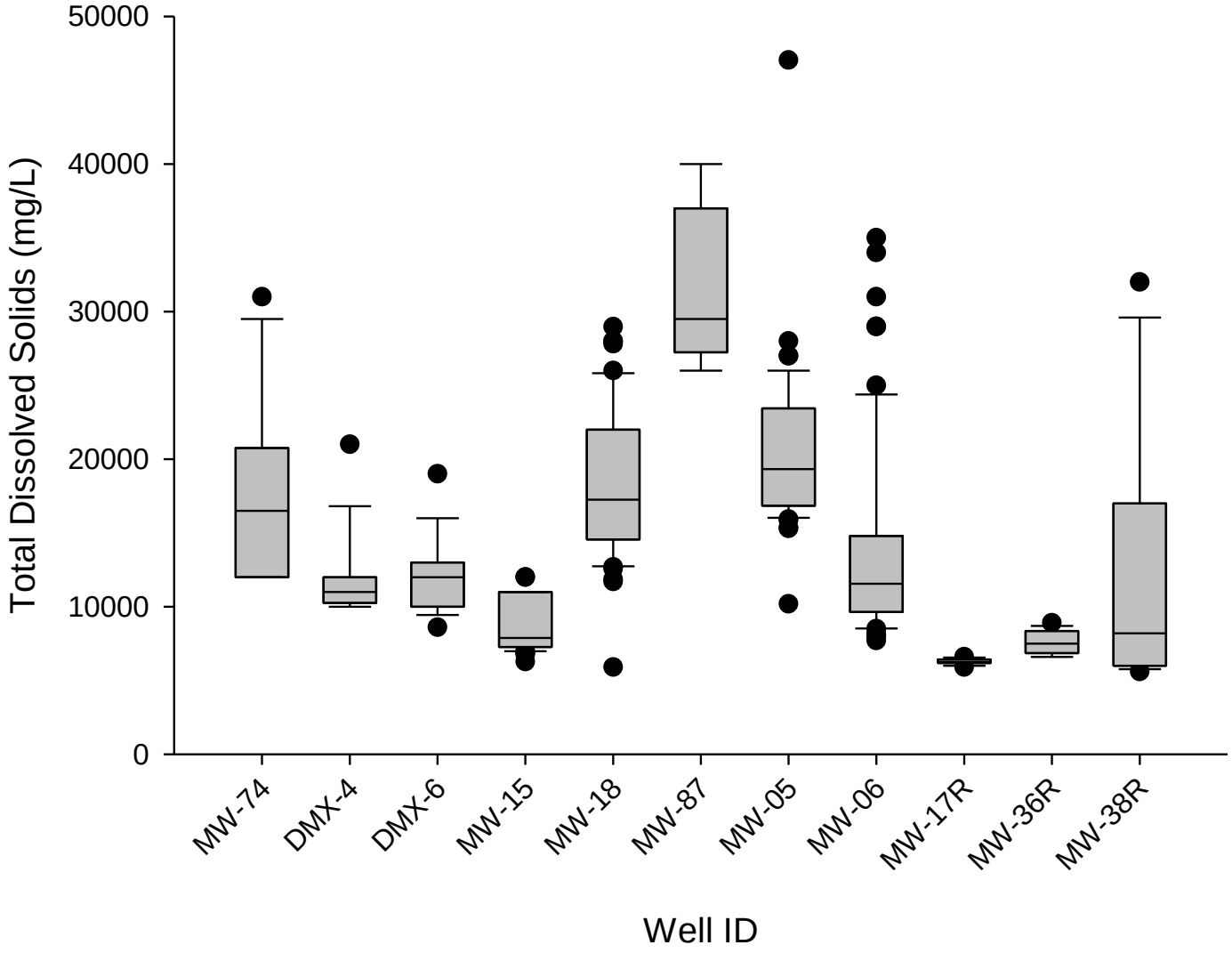


Notes:

1. Wells DMX-04, DMX-06, MW-05, MW-06, MW-15, MW-18, MW-24, MW-57, and MW-87 are downgradient of the SIT.
2. Wells MW-17R and MW-36R are upgradient of the SIT

DUROV DIAGRAM SHOWING MAJOR IONS, Ph, and TDS AT LOCATIONS DOWNGRADIENT OF MU1
Four Corners Power Plant
Fruitland, New Mexico

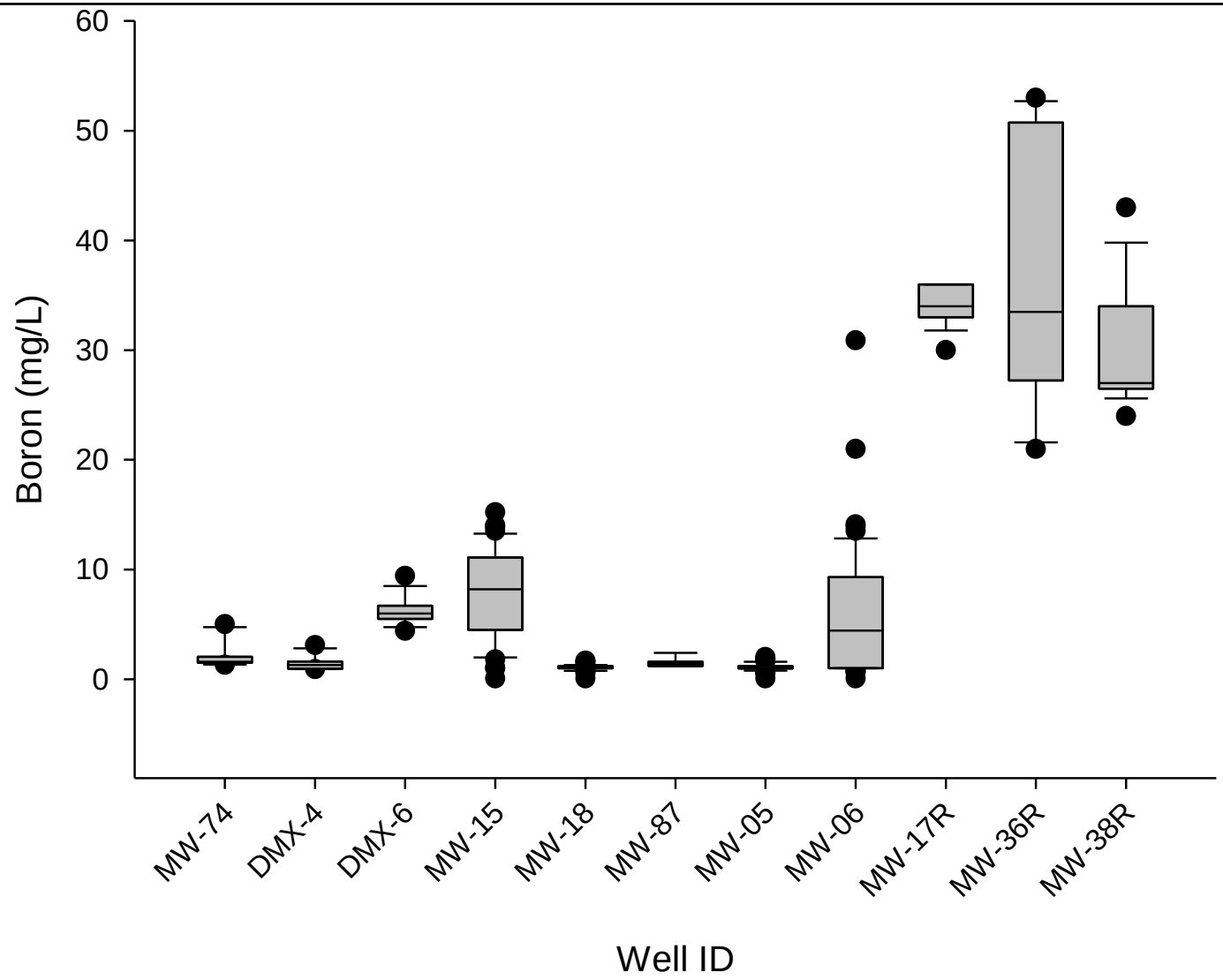
wsp	Date: 11/11/2022	Project No. 1420222030
	By: BWW	**Figure 7**



Notes:
1. Well MW-74 is a background well.
2. Wells DMX-04, DMX-06, MW-05, MW-06, MW-15, MW-18, MW-24, MW-57, and MW-87 are downgradient of the SIT.
3. Wells MW-17R and MW-36R are upgradient of the SIT.

BOX PLOTS OF TDS AT WELLS
UPGRADIENT AND DOWNGRADIENT
OF MULTIUNIT 1
Four Corners Power Plant
Fruitland, New Mexico

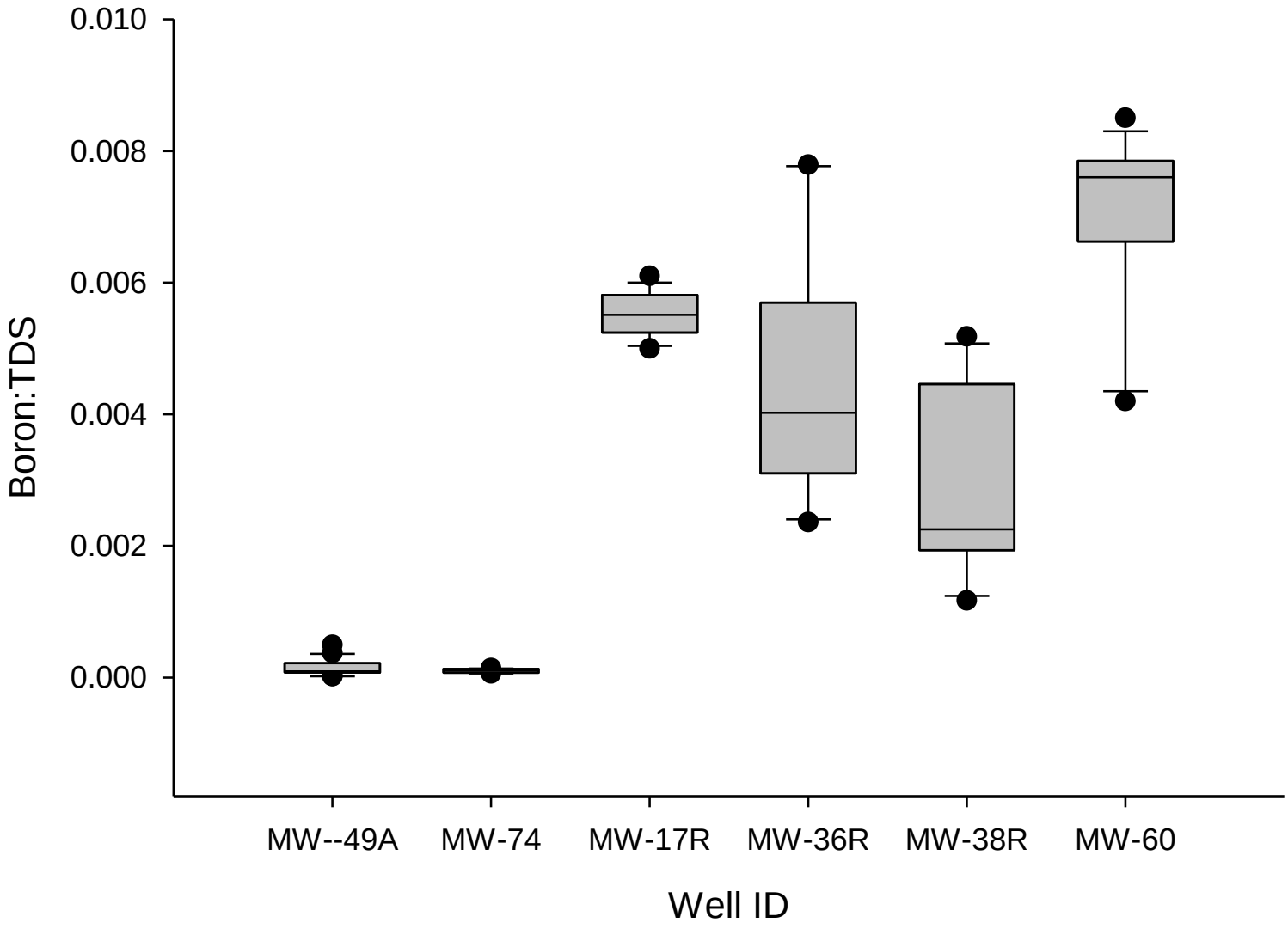
wsp	Date: 11/11/2022	Project No. 1420222030
	By: BWW	**Figure 8**



Notes:
1. Well MW-74 is a background well.
2. Wells MW-17R, MW-36R, and MW-38R are downgradient of Multiunit 1 but upgradient of the SIT.
3. Wells DMX-04, DMX-06, MW-05, MW-06, MW-15, MW-18, and MW-87 are downgradient of Multiunit 1 and the SIT,

BOX PLOTS OF BORON CONCENTRATIONS AT WELLS UPGRADIENT AND DOWNGRADIENT OF MULTIUNIT 1
Four Corners Power Plant
Fruitland, New Mexico

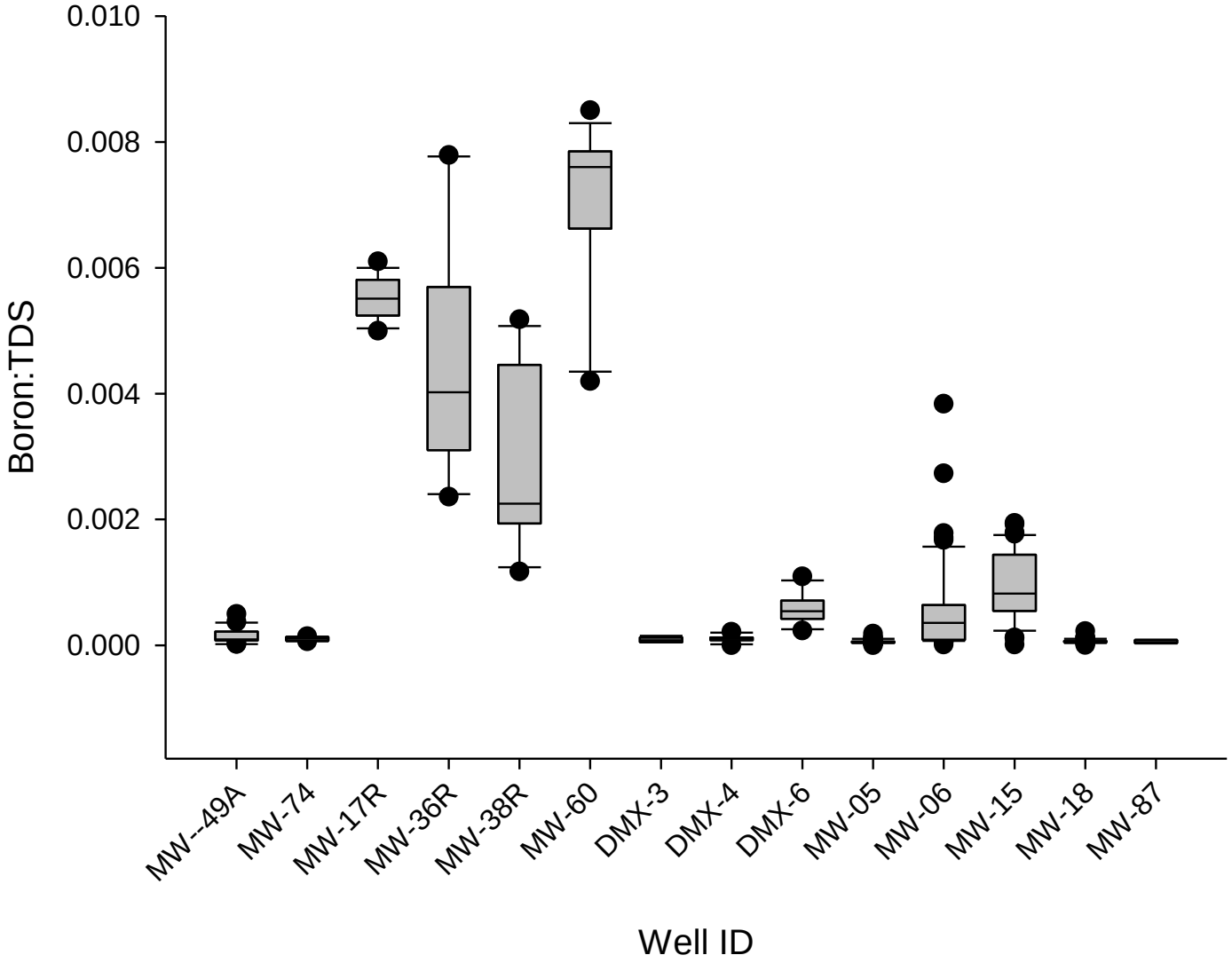
wsp	Date: 11/11/2022	Project No. 1420222030
	By: BWW	**Figure 9**



Notes:
1. Wells MW-49A and MW-74 are background wells.
2. Wells MW-17R, MW-36R, MW-38R and MW-60 are downgradient of Multiunit 1 but upgradient of the SIT.

BOX PLOTS OF THE BORON:TDS RATIO AT BACKGROUND WELLS AND WELLS DOWNGRADIENT OF MULTIUNIT 1 AND UPGRADIENT OF THE SIT
Four Corners Power Plant
Fruitland, New Mexico

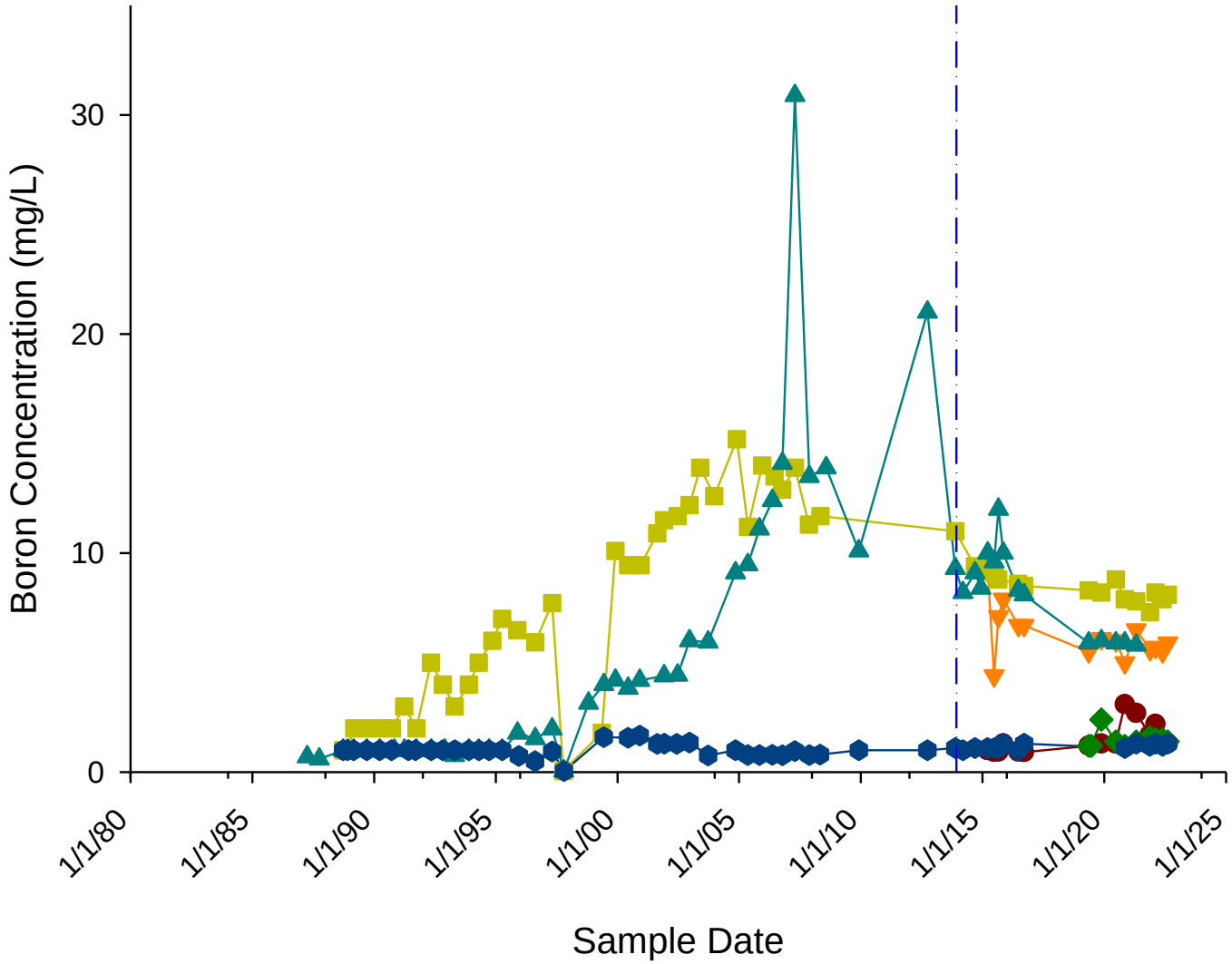
wsp	Date: 11/11/2022	Project No. 1420222030
	By: BWW	**Figure 10**



Notes:
1. Wells MW-49A and MW-74 are background wells.
2. Wells MW-17R, MW-36R, MW-38R and MW-60 are downgradient of Multiunit 1 but upgradient of the SIT.
3. Wells DMX-03, DMX-04, DMX-06, MW-05, MW-06, MW-15, MW-18, and MW-87 are downgradient of Multiunit 1 and the SIT.

BOX PLOTS OF THE BORON:TDS RATIO AT BACKGROUND WELLS AND WELLS DOWNGRADIENT OF MULTIUNIT 1
Four Corners Power Plant
Fruitland, New Mexico

wsp	Date: 11/11/2022	Project No. 1420222030
	By: BWW	**Figure 11**

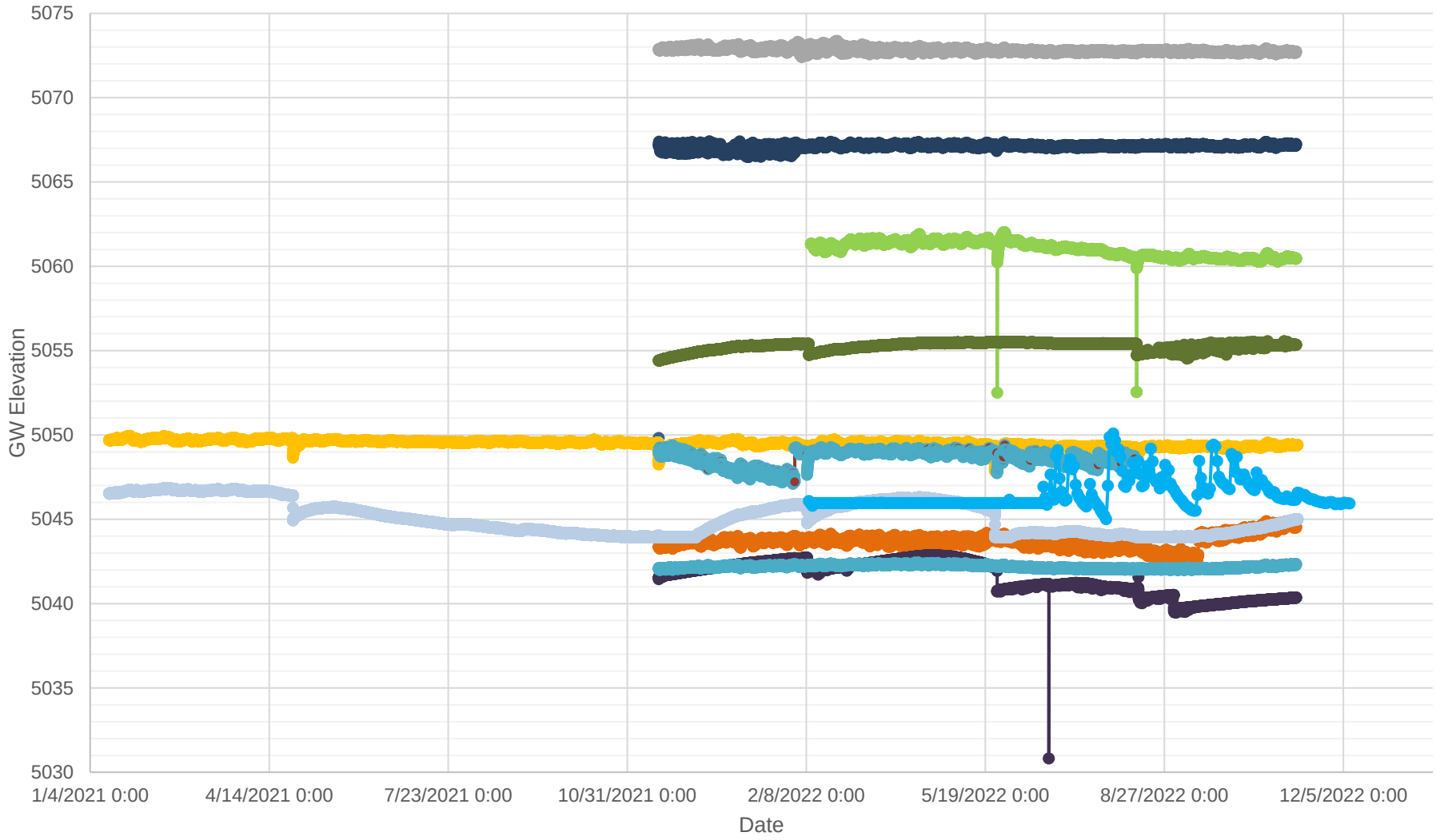


Notes:

DMX-04
DMX-06
MW-15
MW-87
MW-06
MW-18
SIT Operational

CONCENTRATIONS OF BORON AT SELECT WELLS DOWNGRADIENT OF MULTIUNIT 1 AND THE SIT
Four Corners Power Plant
Fruitland, New Mexico

wsp	Date: 11/11/2022	Project No. 1420222030
	By: BWW	**Figure 12**

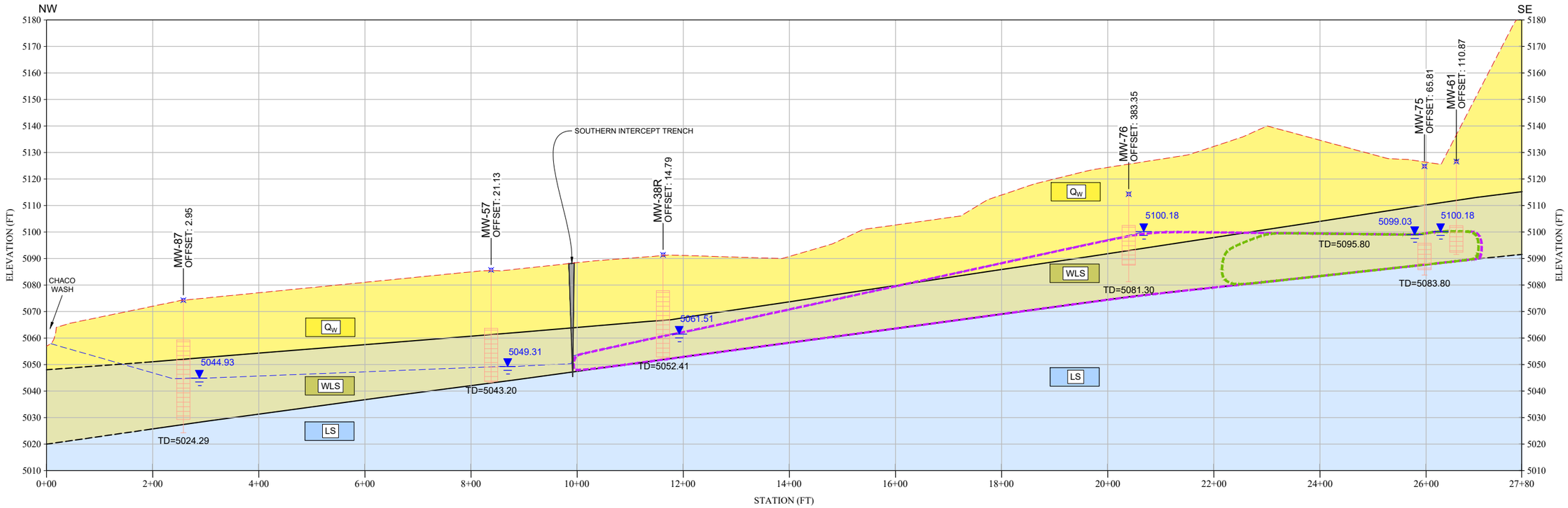


Notes:

DMX-04 | MW-05 | MW-06 | MW-17R
MW-36R | MW-38R | MW-46 | MW-56
MW-57 | MW-87 | MW-18 | Chaco Wash Stream Gauge

HYDROGRAPHS OF SELECT WELLS DOWNGRADIENT OF MULTIUNIT 1 AND WATER LEVELS IN CHACO WASH
Four Corners Power Plant
Fruitland, New Mexico

wsp	Date: 11/11/2022	Project No. 1420222030
	By: BWW	**Figure 13**



SECTION C
FIG 1

HORIZONTAL
100 0 100 200 FT

VERTICAL
20 0 20 40 FT

LEGEND:

- EXISTING GROUND SURFACE
- CONTACT BETWEEN UNITS
- CONTACT DASH WHERE INFERRED
- MONITORING WELL OR PIEZOMETER
- SCREEN INTERVAL
- TD=4978 — TOTAL DEPTH

WATER LEVEL MAY 2022

POTENTIOMETRIC SURFACE
- ALLUVIUM

- Q_W — ALLUVIUM
- WLS — WEATHERED LEWIS SHALE
- LS — LEWIS SHALE
- COBALT 0.01 MG/L
- MOLYBDENUM 0.1 MG/L

CLIENT: aps				
PROJECT: APS FCPP CCR CORRECTIVE ACTION				
TITLE: APS FCPP CROSS-SECTIONS				
DESIGNED BY: BE	CHECKED BY: BE		ISSUED FOR: DRAFT	
DRAWN BY: PM	APPROVED BY: MH			
FILENAME: FCC SECTIONS	FIGURE No.: 14	REV: 0	PROJECT NO.: 14-2022-2030	

wsp

G:\Environmental-Development\2022 Projects\14-2022-2030 APS FCPP CCR Corrective Action 2022-23\14 CAD\FIG\FIG 1.dwg-12/15/2022 5:54 PM

ATTACHMENT

TABLES

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-49A	Multiunit 1	Background	9/10/2014	FCPP-49A-091014	**0.78**	**180**	**1,100**	--	**34,000**	**40,000**	--	--	**930**	**2,200**	**100**	**11,000**
MW-49A	Multiunit 1	Background	3/19/2015	FCPP-49A-031915	**0.93**	**420**	**1,400**	--	**34,000**	**51,000**	--	--	**1,100**	**1,800**	**82**	**11,000**
MW-49A	Multiunit 1	Background	7/1/2015	MW-47A	**1.1**	**450**	**1,500**	--	**32,000**	**52,000**	--	--	**1,100**	**2,000**	**93**	**12,000**
MW-49A	Multiunit 1	Background	8/29/2015	FCPP-49A-082915	**0.75**	**440**	**930**	--	**26,000**	**42,000**	--	--	**1,100**	**1,800**	**90**	**8,700**
MW-49A	Multiunit 1	Background	12/1/2015	FC-CCR-MW49A-120115	**6.0**	**440**	**340**	--	**14,000**	**17,000**	**0.0022**	**0.096**	**870**	**750**	**54**	**4,600**
MW-49A	Multiunit 1	Background	12/1/2015	FC-CCR-MW49A-120115	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	4/26/2016	FC-CCR-MW-49A-042616	**2.7**	**440**	**550**	--	**18,000**	**30,000**	**0.0023**	**0.027**	--	--	--	--
MW-49A	Multiunit 1	Background	6/7/2016	FC-CCR-MW49A-616	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	6/7/2016	FC-CCR-MW49A-616	**4.4**	**410**	**430**	--	**15,000**	**22,000**	**0.0019**	**0.069**	--	--	--	--
MW-49A	Multiunit 1	Background	8/21/2016	FC-CCR-MW49A-816	**2.3**	**390**	**560**	--	**20,000**	**29,000**	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	8/21/2016	FC-CCR-MW49A-816	--	--	--	--	--	--	**0.0030**	**0.028**	--	--	--	--
MW-49A	Multiunit 1	Background	8/21/2016	FC-CCR-MW49A-816	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	9/13/2016	FC-CCR-MW49A-916	**2.4**	**400**	**530**	--	**19,000**	**28,000**	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	9/13/2016	FC-CCR-MW49A-916	--	--	--	--	--	--	< 0.0040	**0.027**	--	--	--	--
MW-49A	Multiunit 1	Background	9/13/2016	FC-CCR-MW49A-916	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	10/20/2016	FC-CCR-MW49A-1016	**2.2**	**390**	**540**	--	**19,000**	**28,000**	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	10/20/2016	FC-CCR-MW49A-1016	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	2/2/2017	FC-CCR-MW49A-117	**2.0**	**390**	**530**	--	**19,000**	**29,000**	--	--	**890**	**1,300**	**77**	**6,700**
MW-49A	Multiunit 1	Background	2/2/2017	FC-CCR-MW49A-117	--	--	--	--	--	--	**0.0040**	**0.042**	--	--	--	--
MW-49A	Multiunit 1	Background	2/2/2017	FC-CCR-MW49A-117	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	4/18/2017	FC-CCR-MW49A-41817	**2.6**	**410**	**1,000**	--	**20,000**	**29,000**	--	--	**900**	**1,400**	**71**	**6,600**
MW-49A	Multiunit 1	Background	4/18/2017	FC-CCR-MW49A-41817	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	4/18/2017	FC-CCR-MW49A-41817	--	--	--	--	--	--	**0.0045**	**0.028**	--	--	--	--
MW-49A	Multiunit 1	Background	5/3/2017	FC-CCR-MW49A-5317	--	--	--	--	--	--	**0.0037**	**0.025**	--	--	--	--
MW-49A	Multiunit 1	Background	5/3/2017	FC-CCR-MW49A-5317	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	5/30/2017	FC-CCR-MW49A-53017	--	--	--	--	--	--	**0.0036**	**0.028**	--	--	--	--
MW-49A	Multiunit 1	Background	5/30/2017	FC-CCR-MW49A-53017	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	6/22/2017	FC-CCR-MW49A-62217	**2.1**	**380**	**510**	--	**22,000**	**24,000**	--	--	**850**	**1,200**	**70**	**5,700**
MW-49A	Multiunit 1	Background	6/22/2017	FC-CCR-MW49A-62217	--	--	--	--	--	--	**0.0039**	**0.025**	--	--	--	--
MW-49A	Multiunit 1	Background	6/22/2017	FC-CCR-MW49A-62217	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	7/22/2017	FC-CCR-MW49A-72217	**2.2**	**390**	**520**	--	**18,000**	**25,000**	--	--	**850**	**1,100**	**69**	**5,700**
MW-49A	Multiunit 1	Background	7/22/2017	FC-CCR-MW49A-72217	--	--	--	--	--	--	**0.0035**	**0.025**	--	--	--	--
MW-49A	Multiunit 1	Background	7/22/2017	FC-CCR-MW49A-72217	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	8/10/2017	FC-CCR-MW49A-81017	**2.7**	**400**	**520**	--	**18,000**	**23,000**	--	--	**790**	**1,100**	**70**	**5,700**
MW-49A	Multiunit 1	Background	8/10/2017	FC-CCR-MW49A-81017	--	--	--	--	--	--	**0.0029**	**0.029**	--	--	--	--
MW-49A	Multiunit 1	Background	8/10/2017	FC-CCR-MW49A-81017	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	8/17/2017	FC-CCR-MW49A-81717	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	8/17/2017	FC-CCR-MW49A-81717	**2.9**	**440**	**510**	--	**16,000**	**22,000**	--	--	**750**	**980**	**84**	**5,400**
MW-49A	Multiunit 1	Background	9/10/2017	FC-CCR-MW49A-91017	**3.4**	**410**	**490**	--	**16,000**	**22,000**	--	--	**720**	**880**	**62**	**4,900**
MW-49A	Multiunit 1	Background	9/10/2017	FC-CCR-MW49A-91017	--	--	--	--	--	--	**0.0026**	**0.034**	--	--	--	--
MW-49A	Multiunit 1	Background	9/10/2017	FC-CCR-MW49A-91017	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	10/12/2017	FC-CCR-MW49A-101217	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	10/12/2017	FC-CCR-MW49A-101217	**3.1**	**370**	**490**	--	**16,000**	**22,000**	< 0.0050	**0.032**	**710**	**790**	**62**	**4,900**
MW-49A	Multiunit 1	Background	11/30/2017	FC-CCR-MW49A-113017	**2.2**	**420**	**560**	--	**17,000**	**23,000**	--	--	**780**	**1,000**	**79**	**6,100**
MW-49A	Multiunit 1	Background	3/17/2018	FC-CCR-MW49A-31718	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	6/1/2018	FC-CCR-MW-49A-6118	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	6/1/2018	FC-CCR-MW-49A-6118	**2.5**	**380**	**560**	--	**18,000**	**26,000**	< 0.010	**0.018**	**750**	**2,800**	**70**	**6,400**
MW-49A	Multiunit 1	Background	11/4/2018	FC-CCR-MW49A-11418	**1.8**	**380**	**590**	--	**19,000**	**27,000**	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	11/4/2018	FC-CCR-MW49A-11418	--	--	--	--	--	--	**0.0020**	**0.014**	--	--	--	--
MW-49A	Multiunit 1	Background	11/4/2018	FC-CCR-MW49A-11418	--	--	--	--	--	--	--	--	--	--	--	--

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-49A	Multiunit 1	Background	3/19/2019	FC-CCR-MW49A-031919	--	--	--	--	--	--	< 0.00050	**0.15**	--	--	--	--
MW-49A	Multiunit 1	Background	3/19/2019	FC-CCR-MW49A-031919	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	5/14/2019	FC-CCR-MW49A-51419	**7.4**	**350**	**420**	--	**11,000**	**15,000**	< 0.00050	**0.10**	--	--	--	--
MW-49A	Multiunit 1	Background	5/14/2019	FC-CCR-MW49A-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	11/19/2019	FC-CCR-MW49A-111919	**6.2**	**380**	**400**	--	**12,000**	**18,000**	**0.0010**	**0.082**	--	--	--	--
MW-49A	Multiunit 1	Background	6/23/2020	FC-CCR-MW49A-0620	**6.3**	**430**	**720**	**7.01**	**13,000**	**17,000**	**0.00077**	**0.066**	--	--	--	--
MW-49A	Multiunit 1	Background	11/6/2020	FC-CCR-MW49-1120	**5.6**	**420**	**430**	**7.14**	**14,000**	**18,000**	**0.0014**	**0.058**	--	--	--	--
MW-49A	Multiunit 1	Background	4/27/2021	FC-CCR-MW49A-0421	**5.2**	**420**	**440**	**7.90**	**14,000**	**19,000**	**0.00089**	**0.051**	--	--	--	--
MW-49A	Multiunit 1	Background	11/15/2021	FC-CCR-MW49A-1121	**5.0**	**440**	**510**	**6.99**	**16,000**	**20,000**	**0.0014**	**0.049**	--	--	--	--
MW-49A	Multiunit 1	Background	5/26/2022	FC-CCR-MW49A-0522	**4.5**	**420**	**460**	**7.42**	**14,000**	**16,000**	**0.0016**	**0.037**	--	--	--	--
MW-74	Multiunit 1	Background	2/2/2017	FC-CCR-MW74-117	**1.7**	**420**	**590**	--	**7,600**	**12,000**	--	--	**380**	**600**	**26**	**2,200**
MW-74	Multiunit 1	Background	2/2/2017	FC-CCR-MW74-117	--	--	--	--	--	--	< 0.0010	**0.075**	--	--	--	--
MW-74	Multiunit 1	Background	2/2/2017	FC-CCR-MW74-117	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	4/18/2017	FC-CCR-MW74-41817	**1.6**	**360**	**430**	--	**7,700**	**12,000**	--	--	**410**	**570**	**20**	**2,100**
MW-74	Multiunit 1	Background	4/18/2017	FC-CCR-MW74-41817	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	4/18/2017	FC-CCR-MW74-41817	--	--	--	--	--	--	< 0.0020	**0.013**	--	--	--	--
MW-74	Multiunit 1	Background	5/2/2017	FC-CCR-MW74-5217	--	--	--	--	--	--	< 0.0010	**0.019**	--	--	--	--
MW-74	Multiunit 1	Background	5/2/2017	FC-CCR-MW74-5217	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	5/29/2017	FC-CCR-MW74-52917	--	--	--	--	--	--	< 0.0050	**0.028**	--	--	--	--
MW-74	Multiunit 1	Background	5/29/2017	FC-CCR-MW74-52917	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	6/22/2017	FC-CCR-MW74-62217	**1.6**	**420**	**410**	--	**7,800**	**12,000**	--	--	**440**	**640**	**22**	**2,200**
MW-74	Multiunit 1	Background	6/22/2017	FC-CCR-MW74-62217	--	--	--	--	--	--	< 0.0020	**0.020**	--	--	--	--
MW-74	Multiunit 1	Background	6/22/2017	FC-CCR-MW74-62117	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	7/22/2017	FC-CCR-MW74-72217	**1.6**	**420**	**410**	--	**8,400**	**12,000**	--	--	**430**	**710**	**22**	**2,400**
MW-74	Multiunit 1	Background	7/22/2017	FC-CCR-MW74-72217	--	--	--	--	--	--	< 0.0010	**0.016**	--	--	--	--
MW-74	Multiunit 1	Background	7/22/2017	FC-CCR-MW74-72217	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	8/10/2017	FC-CCR-MW74-81017	**1.5**	**420**	**420**	--	**10,000**	**13,000**	--	--	**420**	**730**	**22**	**2,400**
MW-74	Multiunit 1	Background	8/10/2017	FC-CCR-MW74-81017	--	--	--	--	--	--	< 0.0020	**0.018**	--	--	--	--
MW-74	Multiunit 1	Background	8/10/2017	FC-CCR-MW74-81017	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	9/10/2017	FC-CCR-MW74-91017	**1.9**	**420**	**470**	--	**11,000**	**15,000**	--	--	**410**	**1,100**	**23**	**3,200**
MW-74	Multiunit 1	Background	9/10/2017	FC-CCR-MW74-91017	--	--	--	--	--	--	< 0.0020	**0.024**	--	--	--	--
MW-74	Multiunit 1	Background	9/10/2017	FC-CCR-MW74-91017	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	10/11/2017	FC-CCR-MW74-101117	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	10/11/2017	FC-CCR-MW74-101117	**1.3**	**380**	**490**	--	**13,000**	**18,000**	< 0.0050	**0.023**	**390**	**1,000**	**22**	**2,900**
MW-74	Multiunit 1	Background	11/30/2017	FC-CCR-MW74-113017	**1.4**	**460**	**470**	--	**12,000**	**17,000**	--	--	**380**	**1,200**	**28**	**3,500**
MW-74	Multiunit 1	Background	3/17/2018	FC-CCR-MW74-31718	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	6/1/2018	FC-CCR-MW-74-6118	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	6/1/2018	FC-CCR-MW-74-6118	**1.5**	**400**	**460**	--	**11,000**	**17,000**	< 0.010	**0.015**	**450**	**870**	**22**	**3,100**
MW-74	Multiunit 1	Background	3/19/2019	FC-CCR-MW74-031919	--	--	--	--	--	--	< 0.00050	**0.012**	--	--	--	--
MW-74	Multiunit 1	Background	3/19/2019	FC-CCR-MW74-031919	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	5/13/2019	FC-CCR-MW74-51319	**1.6**	**400**	**610**	--	**16,000**	**23,000**	< 0.00050	**0.017**	--	--	--	--
MW-74	Multiunit 1	Background	5/13/2019	FC-CCR-MW74-51319	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	6/20/2020	FC-CCR-MW74-0620	**2.2**	**430**	**700**	**7.09**	**18,000**	**28,000**	< 0.0005	**0.012**	--	--	--	--
MW-74	Multiunit 1	Background	4/23/2021	FC-CCR-MW74-0421	**2.0**	**460**	**850**	**8.00**	**22,000**	**31,000**	**0.00056 J**	**0.021**	--	--	--	--
DMX-3	Multiunit 1	Downgradien	4/21/1992	DMX-3_4/21/1992	--	--	**440**	--	**8,900**	**15,000**	--	--	--	--	--	--
DMX-3	Multiunit 1	Downgradien	3/12/2014	FC-DMX3-031214	**1.8**	**440**	**520**	--	**7,500**	**12,000**	--	--	**410**	**890**	**37**	**1,500**
DMX-3	Multiunit 1	Downgradien	9/11/2014	FCPP-DMX3-91114	**1.7**	**450**	**650**	--	**9,600**	**14,000**	--	--	**480**	**1,100**	**43**	**1,900**
DMX-3	Multiunit 1	Downgradien	12/8/2014	FCPP-DUP1-12914	**1.7**	--	--	--	--	--	--	--	--	--	--	--
DMX-3	Multiunit 1	Downgradien	12/8/2014	FCPP-DMX03-12914	**1.7**	--	--	--	--	--	--	--	--	--	--	--
DMX-3	Multiunit 1	Downgradien	3/18/2015	FCPP-DMX3-031815	**2.0**	**430**	**780**	--	**11,000**	**16,000**	--	--	**580**	**1,300**	**42**	**2,100**

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
DMX-3	Multiunit 1	Downgradien	6/24/2015	DMX-3	1.5	410	810	--	5,600	17,000	--	--	640	1,400	46	2,100
DMX-3	Multiunit 1	Downgradien	11/5/2015	FC DMX -3-(051115)	1.4	440	850	--	11,000	17,000	--	--	690	1,600	45	2,400
DMX-3	Multiunit 1	Downgradien	6/21/2016	FC-SEEPS-DMX-3-062116	1.0	420	1,000	--	11,000	19,000	--	--	780	1,600	55	2,600
DMX-3	Multiunit 1	Downgradien	9/15/2016	FC-Seep-DMX3-916	0.97	400	970	--	12,000	19,000	--	--	600	1,700	55	2,800
DMX-3	Multiunit 1	Downgradien	6/22/2020	FC-CCR-DMX03-0620	--	--	--	6.88	--	--	< 0.001	0.0043	--	--	--	--
DMX-3	Multiunit 1	Downgradien	11/7/2020	FC-CCR-DMX03-1120	0.86	440	1,100	6.98	13,000 J	19,000	0.011	0.019	750	1,900	66	2,800
DMX-3	Multiunit 1	Downgradien	4/25/2021	FC-CCR-DMX03-0421	0.92	470	1,100 J	7.64	13,000	20,000	0.0015 J	0.0011 J	750	2,000	72	3,100
DMX-3	Multiunit 1	Downgradien	11/14/2021	FC-CCR-DMX03	0.93	430	1,300	6.84	15,000	39,000	0.0013	0.00095 J	950 J	2,300	58	3,600
DMX-3	Multiunit 1	Downgradien	2/1/2022	FC-CCR-DMX03-0222	0.80	420	1,100	6.71	14,000	17,000	0.0012	0.00094	880	1,800	56	2,800
DMX-3	Multiunit 1	Downgradien	5/25/2022	FC-CCR-DMX03-0522	0.77	490	2,200 J	6.74	28,000	21,000	0.0015	< 0.001	860	2,000	66	3,200
DMX-3	Multiunit 1	Downgradient	8/12/2022	FC-CCR-DMX03-0822	0.77	450	1,100	6.35	13,000	20,000	0.0012	0.0011	860	1,900	59	2,800
DMX-4	Multiunit 1	Downgradien	4/21/1992	DMX-4_4/21/1992	--	--	550	--	9,400	16,000	--	--	--	--	--	--
DMX-4	Multiunit 1	Downgradien	3/18/2015	FCPP-DMX4-031815	1.0	430	460	--	7,100	11,000	--	--	350	680	32	1,900
DMX-4	Multiunit 1	Downgradien	6/24/2015	DMX-4	0.92	390	430	--	7,000	11,000	--	--	340	630	32	1,600
DMX-4	Multiunit 1	Downgradien	8/29/2015	FCPP-DMX4-082915	0.93	430	430	--	6,200	10,000	--	--	330	620	34	1,500
DMX-4	Multiunit 1	Downgradien	11/7/2015	FC DMX-4-(07115)	1.2	440	430	--	6,600	11,000	--	--	330	790	34	1,800
DMX-4	Multiunit 1	Downgradien	11/7/2015	*DUP* FC FD-3-(071115)	1.3	490	--	--	--	10,000	--	--	330	900	37	1,900
DMX-4	Multiunit 1	Downgradien	6/21/2016	FC-SEEPS-DMX-4-062116	0.93	420	450	--	6,600	11,000	--	--	340	640	35	1,600
DMX-4	Multiunit 1	Downgradien	9/15/2016	FC-Seep-DMX4-916	0.91	380	390	--	6,300	21,000	--	--	320	610	34	1,600
DMX-4	Multiunit 1	Downgradien	3/19/2019	FC-CCR-DMX4-031919	--	--	--	--	--	--	0.0028	0.016	--	--	--	--
DMX-4	Multiunit 1	Downgradien	3/19/2019	FC-CCR-DMX4-031919	--	--	--	--	--	--	--	--	--	--	--	--
DMX-4	Multiunit 1	Downgradien	5/14/2019	FC-CCR-DMX4-51419	1.2	410	420	--	6,400	11,000	0.00074	0.0094	--	--	--	--
DMX-4	Multiunit 1	Downgradien	5/14/2019	FC-CCR-DMX4-51419	--	--	--	--	--	--	--	--	--	--	--	--
DMX-4	Multiunit 1	Downgradien	11/19/2019	FC-CCR-DMX4-111919	1.3	420	510	--	6,900	11,000	0.00093	0.0077	--	--	--	--
DMX-4	Multiunit 1	Downgradien	6/22/2020	FC-CCR-DMX04-0620	1.3	410	490	7.30	7,400	12,000	< 0.001	0.0080	--	--	--	--
DMX-4	Multiunit 1	Downgradien	11/7/2020	FC-CCR-DMX04-1120	3.1	410	770	7.38	9,400	15,000	0.0070	0.011	410	800	42	3,000
DMX-4	Multiunit 1	Downgradien	4/25/2021	FC-CCR-DMX04-0421	2.7	440	660 J	8.22	8,500	14,000	0.00058 J	0.010	410	840	47	2,800
DMX-4	Multiunit 1	Downgradien	11/16/2021	FC-CCR-DMX04-1121	1.7	420	510	7.28	8,000	12,000 J	0.00055 J	0.0064	340	750	35	1,800
DMX-4	Multiunit 1	Downgradien	2/8/2022	FC-CCR-DMX04-0222	2.2	440	490	7.24	7,400	11,000	0.00083	0.0047	360	760	36	1,700
DMX-4	Multiunit 1	Downgradien	5/25/2022	FC-CCR-DMX04-0522	1.4	450	860	7.30	16,000	10,000	< 0.001	0.0061	340	780	37	1,800
DMX-4	Multiunit 1	Downgradient	8/12/2022	FC-CCR-DMX04-0822	1.3	430	450	7.04	6,700	10,000	0.0005	0.0059	350	760	34	1,600
DMX-6	Multiunit 1	Downgradien	4/21/1992	DMX-6_4/21/1992	--	--	330	--	4,900	8,400	--	--	--	--	--	--
DMX-6	Multiunit 1	Downgradien	3/17/2015	FCPP-DMX6-031715	9.4	440	350	--	5,600	8,600	--	--	250	490	31	1,400
DMX-6	Multiunit 1	Downgradien	6/24/2015	DMX-6	4.4	400	1,800	--	13,000	19,000	--	--	710	580	53	5,000
DMX-6	Multiunit 1	Downgradien	8/29/2015	FCPP-DMX6-082915	7.1	430	420	--	6,200	10,000	--	--	290	500	39	1,700
DMX-6	Multiunit 1	Downgradien	11/10/2015	FC DMX-6-(101115)	7.9	450	--	--	--	10,000	--	--	310	570	36	2,000
DMX-6	Multiunit 1	Downgradien	6/22/2016	FC-SEEPS-DMX6-062216	6.7	410	430	--	6,000	10,000	--	--	310	500	36	1,700
DMX-6	Multiunit 1	Downgradien	9/15/2016	FC-Seep-DMX6-916	6.7	390	650	--	7,200	11,000	--	--	370	490	39	2,100
DMX-6	Multiunit 1	Downgradien	3/19/2019	FC-CCR-DMX6-031919	--	--	--	--	--	--	0.0011	0.051	--	--	--	--
DMX-6	Multiunit 1	Downgradien	3/19/2019	FC-CCR-DMX6-031919	--	--	--	--	--	--	--	--	--	--	--	--
DMX-6	Multiunit 1	Downgradien	5/14/2019	FC-CCR-DMX6-51419	5.5	330	880	--	8,100	13,000	0.00088	0.020	--	--	--	--
DMX-6	Multiunit 1	Downgradien	5/14/2019	FC-CCR-DMX6-51419	--	--	--	--	--	--	--	--	--	--	--	--
DMX-6	Multiunit 1	Downgradien	11/19/2019	FC-CCR-DMX6-111919	6.1	360	710	--	7,300	12,000	0.00094	0.017	--	--	--	--
DMX-6	Multiunit 1	Downgradien	6/23/2020	FC-CCR-DMX06-0620	6.0	350	880	6.77	8,000	13,000	< 0.001	0.0080	480	510	48	3,100
DMX-6	Multiunit 1	Downgradien	11/6/2020	FC-CCR-DMX06-1120	5.0	330	1,100	6.90	9,100	14,000	0.0067	0.0045	570	490	46	3,700
DMX-6	Multiunit 1	Downgradien	4/27/2021	FC-CCR-DMX06-0421	6.5	410	630 J	7.71	6,900	12,000	0.00046 J	0.0032	430	610	46	2,300
DMX-6	Multiunit 1	Downgradien	11/18/2021	FC-CCR-DMX06-1121	5.6	380	910	6.87	9,100	12,000	0.00054 J	0.0047	440	560	42	2,700
DMX-6	Multiunit 1	Downgradien	2/8/2022	FC-CCR-DMX06-0222	5.7	390	820	6.75	8,200	13,000	0.00065	0.0035	460	580	44	2,700
DMX-6	Multiunit 1	Downgradien	5/24/2022	FC-CCR-DMX06-0522	5.5	350	750	6.89	7,500	12,000	0.00062	0.0038	440	540 / 560	41	2,600
DMX-6	Multiunit 1	Downgradient	8/13/2022	FC-CCR-DMX06-0822	5.9	400	670	6.94	7,300	11,000	0.00056	0.0028	400	600	38	2,300

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-05	Multiunit 1	Downgradien	4/1/1987	MW-5_4/1/1987	--	--	1,900	7.40	15,000	20,000	--	--	--	--	--	--
MW-05	Multiunit 1	Downgradien	10/2/1987	MW-5_10/2/1987	--	--	1,800	7.32	16,000	27,000	--	--	--	--	--	--
MW-05	Multiunit 1	Downgradien	6/14/1988	MW-5-19880614	--	452	1,644	7.09	12,777	22,543	--	--	817.4	1,540	76	4,575
MW-05	Multiunit 1	Downgradien	9/21/1988	MW-5-19880921	1.0	433	1,583	7.04	12,922	25,575	--	--	915	1,780	77	3,720
MW-05	Multiunit 1	Downgradien	11/28/1988	MW-5-19881128	1.0	429	1,727	7.06	15,345	23,120	--	--	902.8	1,970	92	4,170
MW-05	Multiunit 1	Downgradien	2/28/1989	MW-5-19890228	1.0	440	1,430	7.20	13,713	23,010	--	--	976	1,650	80	3,830
MW-05	Multiunit 1	Downgradien	9/11/1989	MW-5-19890911	1.0	465	1,491	7.0	13,185	23,710	--	--	893.04	1,908	76	4,100
MW-05	Multiunit 1	Downgradien	3/22/1990	MW-5-19900322	1.0	500	1,261	7.10	12,903	23,200	--	--	915	1,450	74	3,900
MW-05	Multiunit 1	Downgradien	10/30/1990	MW-5-19901030	1.0	420	1,047	7.05	13,120	19,533	--	--	793	1,400	60	3,100
MW-05	Multiunit 1	Downgradien	4/4/1991	MW-5-19910404	1.0	400	1,048	6.94	13,185	19,930	--	--	823.5	1,500	65	3,400
MW-05	Multiunit 1	Downgradien	9/30/1991	MW-5-19910930	1.0	390	955	7.21	12,500	19,320	--	--	762.5	1,390	66	3,140
MW-05	Multiunit 1	Downgradien	4/15/1992	MW-5-19920415	1.0	420	1,151	7.20	12,680	21,150	--	--	701.5	1,400	76	3,900
MW-05	Multiunit 1	Downgradien	11/3/1992	MW-5-19921103	1.0	400	1,803	6.96	14,184	24,840	--	--	976	1,600	62	4,600
MW-05	Multiunit 1	Downgradien	6/22/1993	MW-5-19930622	0.60	380	927	6.98	11,436	19,210	--	--	732	1,300	75	3,300
MW-05	Multiunit 1	Downgradien	11/30/1993	MW-5-19931130	1.0	400	810	6.99	11,810	18,610	--	--	732	1,400	62	3,300
MW-05	Multiunit 1	Downgradien	5/10/1994	MW-5-19940510	1.0	420	931	7.08	11,670	19,240	--	--	945.5	1,400	71	3,400
MW-05	Multiunit 1	Downgradien	11/8/1994	MW-5-19941108	1.0	400	943	7.10	10,944	18,670	--	--	762.5	1,300	70	3,700
MW-05	Multiunit 1	Downgradien	4/6/1995	MW-5-19950406	1.0	420	929	7.02	10,568	19,370	--	--	823.5	1,400	63	3,300
MW-05	Multiunit 1	Downgradien	12/13/1995	MW-5-19951213	0.89	400	900	7.07	11,068	18,090	--	--	732	1,500	65	3,400
MW-05	Multiunit 1	Downgradien	8/15/1996	MW-5-19960815	0.67	360	762	7.02	9,929	17,210	--	--	762.5	1,200	62	3,000
MW-05	Multiunit 1	Downgradien	4/15/1997	MW-5-19970415	0.99	360	759.8	7.37	9,614	17,380	--	--	823.5	1,100	58	3,000
MW-05	Multiunit 1	Downgradien	10/13/1997	MW-5-19971013	< 0.05	400	786.2	7.20	9,887	16,050	--	--	762.5	1,000	56	2,700
MW-05	Multiunit 1	Downgradien	4/14/1998	MW-5-19980414	--	420	774.2	6.86	9,217	16,410	--	--	640.5	1,200	51	2,900
MW-05	Multiunit 1	Downgradien	10/20/1998	MW-5-19981020	1.02	380	850.6	7.16	10,063	16,600	--	--	793	1,100	50	2,600
MW-05	Multiunit 1	Downgradien	6/8/1999	MW-5-19990608	1.8	420	889.6	7.04	9,983	17,740	--	--	762.5	1,200	49	2,000
MW-05	Multiunit 1	Downgradien	12/1/1999	MW-5-19991201	1.6	440	747.4	7.02	8,913	18,140	--	--	671	1,000	50	3,500
MW-05	Multiunit 1	Downgradien	5/30/2000	MW-5-20000530	1.83	430	1,220	6.96	12,493	16,900	--	--	762.5	1,230	52.1	2,940
MW-05	Multiunit 1	Downgradien	11/14/2000	MW-5-20001114	2.02	40	754.2	7.01	8,457	16,410	--	--	640.5	1,000	57	3,000
MW-05	Multiunit 1	Downgradien	8/21/2001	MW-5-20010821	1.61	400	823.8	6.94	8,732	15,320	--	--	640.5	1,100	51	3,500
MW-05	Multiunit 1	Downgradien	12/4/2001	MW-5-20011204	1.4	440	781	6.80	9,030	15,300	--	--	701.5	1,000	50	2,900
MW-05	Multiunit 1	Downgradien	6/11/2002	MW-5-20020611	1.6	400	857	7.05	8,785	16,320	--	--	1,037	1,100	52	2,800
MW-05	Multiunit 1	Downgradien	12/18/2002	MW-5-20021218	1.57	380	809.4	7.07	8,517	16,310	--	--	793	1,000	42	2,500
MW-05	Multiunit 1	Downgradien	5/28/2003	MW-5-20030528	1.84	400	899.2	6.92	8,022	10,180	--	--	701.5	1,000	44	2,300
MW-05	Multiunit 1	Downgradien	12/15/2003	MW-5-20031215	0.90	320	791.4	6.97	8,312	15,850	--	--	2,867	1,000	56	2,500
MW-05	Multiunit 1	Downgradien	6/18/2004	MW-5-20040618	--	400	862.2	6.97	8,886	47,050	--	--	5,307	1,100	59	3,100
MW-05	Multiunit 1	Downgradien	11/30/2004	MW-5-20041130	1.3	440	875.6	7.10	6,119	16,360	--	--	732	1,200	60	3,450
MW-05	Multiunit 1	Downgradien	5/11/2005	MW-5-20050511	0.952	440	860.4	6.76	8,955	15,920	--	--	732	1,200	59	2,300
MW-05	Multiunit 1	Downgradien	12/12/2005	MW-5-20051212	0.841	445	958.4	7.10	9,241	16,780	--	--	732	1,220	49	3,050
MW-05	Multiunit 1	Downgradien	5/15/2006	MW-5-20060515	0.837	444	977	7.01	11,400	17,200	--	--	705.16	1,190	47.7	2,890
MW-05	Multiunit 1	Downgradien	10/13/2006	MW-5-20061013	0.997	476	852	6.96	10,000	17,300	--	--	716.14	1,230	41.2	2,820
MW-05	Multiunit 1	Downgradien	4/19/2007	MW-5-20070419	0.97	429	836	7.00	9,120	16,500	--	--	686.86	1,090	47.2	2,480
MW-05	Multiunit 1	Downgradien	11/20/2007	MW-5-20071120	0.743	348	1,040	7.00	9,800	18,100	--	--	768.6	859	41.5	2,220
MW-05	Multiunit 1	Downgradien	5/8/2008	MW-5-20080508	0.50	356	1,010	7.03	10,900	17,770	--	--	744.2	1,060	53.7	3,070
MW-05	Multiunit 1	Downgradien	9/27/2012	MW-5-092712-01	1.2	420	3,300	--	14,000	24,000	--	--	880	1,200	66	5,500
MW-05	Multiunit 1	Downgradien	9/10/2014	FCPP-05-091014	1.1	420	3,800	--	17,000	25,000	--	--	980	1,300	68	5,600
MW-05	Multiunit 1	Downgradien	3/18/2015	FCPP-05-031815	1.2	450	3,400	--	14,000	24,000	--	--	900	1,200	60	5,500
MW-05	Multiunit 1	Downgradien	6/30/2015	MW-5	1.2	420	3,100	--	13,000	21,000	--	--	850	1,300	68	5,600
MW-05	Multiunit 1	Downgradien	8/25/2015	FCPP-5-082515	1.2	450	3,400	--	13,000	26,000	--	--	950	1,200	76	5,900
MW-05	Multiunit 1	Downgradien	11/6/2015	FC MW-5-(061115)	1.1	450	2,300	--	13,000	22,000	--	--	790	1,400	62	4,600
MW-05	Multiunit 1	Downgradien	6/17/2016	FC-Seep-MW5-616	1.0	460	3,000	--	14,000	23,000	--	--	740	1,400	70	6,000

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-05	Multiunit 1	Downgradien	6/17/2016	FC-Seep-Dup1-616	0.98	450	3,000	--	14,000	25,000	--	--	740	1,400	69	5,700
MW-05	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW5-916	1.0	440	2,900	--	14,000	25,000	--	--	1,000	1,400	75	5,700
MW-05	Multiunit 1	Downgradien	6/22/2020	FC-CCR-MW05-0620	--	--	--	6.64	--	--	0.0069	0.0042	--	--	--	--
MW-05	Multiunit 1	Downgradien	11/7/2020	FC-CCR-MW05-1120	1.2	--	--	6.71	--	--	0.0037	0.0024	--	--	--	--
MW-05	Multiunit 1	Downgradien	4/25/2021	FC-CCR-MW05-0421	1.2	510	4,400 J	7.33	15,000	26,000	0.0094	0.0024	900	1,500	100	6,500
MW-05	Multiunit 1	Downgradien	11/16/2021	FC-CCR-MW05-1121	1.2	510	8,100	6.58	27,000	28,000 J	0.0082	0.0017	850	1,400	89	6,500
MW-05	Multiunit 1	Downgradien	2/1/2022	FC-CCR-MW05-0222	1.1	460	8,200	6.54	13,000	22,000	0.0071	0.0013	930	1,300	72	6,400
MW-05	Multiunit 1	Downgradien	5/25/2022	FC-CCR-MW05-0522	1.1	530	8,700	6.62	34,000	20,000	0.0068	0.0017	890	1,300	94	6,700
MW-05	Multiunit 1	Downgradient	8/12/2022	FC-CCR-MW05-0822	1.2	520	4,200	6.32	14,000	27,000	0.0058	0.0018	880	1,400	87	6,300
MW-06	Multiunit 1/EW	Downgradien	4/1/1987	MW-6_4/1/1987	--	--	420	7.60	9,000	11,000	--	--	--	--	--	--
MW-06	Multiunit 1/EW	Downgradien	9/30/1987	MW-6_9/30/1987	--	--	410	7.60	8,500	13,000	--	--	--	--	--	--
MW-06	Multiunit 1/EW	Downgradien	6/15/1988	MW-6-19880615	--	396	469	7.29	8,590	13,690	--	--	414.8	812	49	2,690
MW-06	Multiunit 1/EW	Downgradien	9/21/1988	MW-6-19880921	1.0	370	374	7.03	7,922	13,885	--	--	329.4	789	45	2,430
MW-06	Multiunit 1/EW	Downgradien	11/29/1988	MW-6-19881129	1.0	389	397	7.26	8,366	13,535	--	--	244	1,000	49	2,270
MW-06	Multiunit 1/EW	Downgradien	2/27/1989	MW-6-19890227	1.0	397	375	7.29	8,201	13,195	--	--	488	757	48	2,200
MW-06	Multiunit 1/EW	Downgradien	9/12/1989	MW-6-19890912	1.0	340	369	7.25	7,022	12,370	--	--	427	850	44	2,100
MW-06	Multiunit 1/EW	Downgradien	3/26/1990	MW-6-19900326	1.0	370	397	7.40	7,699	12,190	--	--	366	650	56	2,100
MW-06	Multiunit 1/EW	Downgradien	10/30/1990	MW-6-19901030	1.0	380	396	7.35	7,792	11,898	--	--	335.5	700	40	2,050
MW-06	Multiunit 1/EW	Downgradien	4/2/1991	MW-6-19910402	1.0	370	394	7.37	7,532	14,600	--	--	396.5	700	42	2,050
MW-06	Multiunit 1/EW	Downgradien	9/24/1991	MW-6-19910924	1.0	356	396	7.41	7,174	11,860	--	--	366	720	40.5	2,085
MW-06	Multiunit 1/EW	Downgradien	5/5/1992	MW-6-19920505	1.0	350	391.1	7.54	7,040	11,550	--	--	366	700	42	2,150
MW-06	Multiunit 1/EW	Downgradien	11/27/1992	MW-6-19921127	1.0	360	411.6	7.29	8,030	12,060	--	--	396.5	650	46	2,250
MW-06	Multiunit 1/EW	Downgradien	4/21/1993	MW-6-19930421	0.76	360	495	7.20	8,506	12,960	--	--	488	650	47.5	2,450
MW-06	Multiunit 1/EW	Downgradien	11/22/1993	MW-6-19931122	1.0	380	360	7.31	6,894	11,130	--	--	335.5	650	40	1,950
MW-06	Multiunit 1/EW	Downgradien	4/20/1994	MW-6-19940420	1.0	390	391	7.33	6,742	11,520	--	--	457.5	650	45	2,000
MW-06	Multiunit 1/EW	Downgradien	9/20/1994	MW-6-19940920	1.0	370	389	7.35	6,754	11,260	--	< 0.01	396.5	650	46	1,900
MW-06	Multiunit 1/EW	Downgradien	12/14/1994	MW-6-19941214	--	410	--	7.28	--	--	< 0.25	--	--	630	34	1,700
MW-06	Multiunit 1/EW	Downgradien	4/5/1995	MW-6-19950405	1.0	360	421	7.30	6,826	11,120	--	--	457.5	600	42	2,000
MW-06	Multiunit 1/EW	Downgradien	11/21/1995	MW-6-19951121	1.78	400	384	7.37	6,426	10,680	--	--	366	600	46	1,900
MW-06	Multiunit 1/EW	Downgradien	8/14/1996	MW-6-19960814	1.53	310	338.3	7.37	6,500	10,830	--	--	396.5	650	38	1,900
MW-06	Multiunit 1/EW	Downgradien	4/23/1997	MW-6-19970423	1.97	300	426.5	7.32	6,406	11,110	--	--	396.5	600	41	2,050
MW-06	Multiunit 1/EW	Downgradien	10/14/1997	MW-6-19971014	< 0.05	380	393.7	7.52	6,250	9,920	--	--	762.5	550	38	1,700
MW-06	Multiunit 1/EW	Downgradien	10/21/1998	MW-6-19981021	3.15	370	395	7.28	6,342	10,060	--	--	396.5	600	30	1,500
MW-06	Multiunit 1/EW	Downgradien	6/9/1999	MW-6-19990609	4.0	390	374.8	7.35	6,130	10,390	--	--	457.5	550	30.5	1,250
MW-06	Multiunit 1/EW	Downgradien	12/1/1999	MW-6-19991201	4.2	480	345.3	7.51	5,662	9,570	--	--	305	550	32.5	2,000
MW-06	Multiunit 1/EW	Downgradien	6/8/2000	MW-6-20000608	3.83	423	522	7.43	6,873	9,680	--	--	488	618	34.7	1,630
MW-06	Multiunit 1/EW	Downgradien	11/28/2000	MW-6-20001128	4.19	490	329.9	7.20	5,790	9,840	--	--	457.5	550	37	2,050
MW-06	Multiunit 1/EW	Downgradien	8/21/2001	MW-6-20010821	--	450	376	7.24	6,090	10,110	--	--	701.5	600	33	1,850
MW-06	Multiunit 1/EW	Downgradien	12/3/2001	MW-6-20011203	4.4	490	334.5	7.26	5,839	9,440	--	--	396.5	500	29.5	1,900
MW-06	Multiunit 1/EW	Downgradien	6/24/2002	MW-6-20020624	4.43	400	323.9	7.50	5,592	9,790	--	--	427	550	40.5	1,500
MW-06	Multiunit 1/EW	Downgradien	12/18/2002	MW-6-20021218	6.0	380	320.3	7.56	5,507	9,520	--	--	335.5	450	34.5	1,550
MW-06	Multiunit 1/EW	Downgradien	6/3/2003	MW-6-20030603	--	400	352.6	7.30	5,253	9,590	--	--	366	500	36	1,550
MW-06	Multiunit 1/EW	Downgradien	9/24/2003	MW-6-20030924	5.94	330	311	7.27	5,505	9,500	--	--	396.5	500	37.5	1,450
MW-06	Multiunit 1/EW	Downgradien	6/16/2004	MW-6-20040616	--	40	353.6	7.25	5,658	9,310	--	--	2,501	550	34	1,650
MW-06	Multiunit 1/EW	Downgradien	11/9/2004	MW-6-20041109	9.1	425	304	7.38	4,870	8,810	--	0.00276	2,349	499	29.8	1,320
MW-06	Multiunit 1/EW	Downgradien	5/12/2005	MW-6-20050512	9.47	450	321.9	7.30	5,588	8,580	0.0012	--	305	550	35.5	1,250
MW-06	Multiunit 1/EW	Downgradien	11/1/2005	MW-6-20051101	11.1	404	316.4	7.19	4,881	8,990	0.0030	--	396.5	494	29.6	1,420
MW-06	Multiunit 1/EW	Downgradien	5/16/2006	MW-6-20060516	12.4	419	314	7.23	5,100	8,500	0.0040	< 0.006	259.86	468	27.3	1,360
MW-06	Multiunit 1/EW	Downgradien	10/13/2006	MW-6-20061013	14.1	454	318	7.33	5,590	7,920	< 0.008	< 0.012	233.02	471	26.6	1,320
MW-06	Multiunit 1/EW	Downgradien	4/18/2007	MW-6-20070418	30.9	422	352	7.35	5,370	8,050	< 0.008	0.0040	235.46	417	25.2	1,180

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-06	Multiunit 1/EW	Downgradien	11/20/2007	MW-6-20071120	13.5	378	352	7.42	5,100	8,070	0.00418	0.00090	239.12	373	22.7	1,100
MW-06	Multiunit 1/EW	Downgradien	8/1/2008	MW-6-20080801	13.9	389	400	7.45	5,450	8,120	0.00489	< 0.0005	244	418	25.9	1,130
MW-06	Multiunit 1/EW	Downgradien	12/3/2009	MW-6-20091203	10.1	377	680	7.13	7,100	11,700	0.00288	0.0010	431.88	467	32.1	2,560
MW-06	Multiunit 1/EW	Downgradien	9/28/2012	MW-6-092812-01	21	440	650	--	4,200	7,700	--	--	140	360	22	960
MW-06	Multiunit 1/EW	Downgradien	11/20/2013	FC-06-112013	9.3	480	1,100	--	9,400	15,000	--	--	460	630	41	3,300
MW-06	Multiunit 1/EW	Downgradien	3/12/2014	FC-06-031214	8.2	430	1,100	--	9,300	14,000	--	--	440	580	41	3,300
MW-06	Multiunit 1/EW	Downgradien	9/11/2014	FCPP-06-91114	9.1	400	1,200	--	9,400	15,000	--	--	410	580	41	3,300
MW-06	Multiunit 1/EW	Downgradien	12/8/2014	FCPP-MW06-12914	8.4	--	--	--	--	--	--	--	--	--	--	--
MW-06	Multiunit 1/EW	Downgradien	3/19/2015	FCPP-06-031915	10	430	1,300	--	9,700	15,000	--	--	430	640	38	3,400
MW-06	Multiunit 1/EW	Downgradien	6/24/2015	MW-6	9.6	410	1,400	--	9,400	16,000	--	--	430	620	44	3,500
MW-06	Multiunit 1/EW	Downgradien	8/29/2015	FCPP-06-082915	12	440	1,100	--	8,300	14,000	--	--	380	580	42	3,000
MW-06	Multiunit 1/EW	Downgradien	11/7/2015	FC MW-6-(07115)	10	470	1,300	--	9,400	15,000	--	--	430	770	46	4,000
MW-06	Multiunit 1/EW	Downgradien	6/20/2016	FC-Seep-MW6-616	8.3	450	1,400	--	9,600	16,000	--	--	460	670	47	3,900
MW-06	Multiunit 1/EW	Downgradien	9/15/2016	FC-Seep-MW6-916	8.1	420	1,300	--	9,700	15,000	--	--	470	630	48	4,000
MW-06	Multiunit 1/EW	Downgradien	3/19/2019	FC-CCR-MW6-031919	--	--	--	--	--	--	0.0050	0.017	--	--	--	--
MW-06	Multiunit 1/EW	Downgradien	3/19/2019	FC-CCR-MW6-031919	--	--	--	--	--	--	--	--	--	--	--	--
MW-06	Multiunit 1/EW	Downgradien	5/14/2019	FC-CCR-MW6-51419	5.9	430	1,500	--	11,000	18,000	0.0047	0.0074	--	--	--	--
MW-06	Multiunit 1/EW	Downgradien	5/14/2019	FC-CCR-MW6-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-06	Multiunit 1/EW	Downgradien	11/19/2019	FC-CCR-MW6-111919	6.0	500	1,900	--	16,000	22,000	0.0010	0.0040	--	--	--	--
MW-06	Multiunit 1/EW	Downgradien	6/23/2020	FC-CCR-MW06-0620	5.9	520	2,200	7.00	18,000	29,000	0.0025	0.0042	--	--	--	--
MW-06	Multiunit 1/EW	Downgradien	11/7/2020	FC-CCR-MW06-1120	5.9	460	2,700	7.13	23,000	31,000	0.00036 J	0.0048	720	1,500	88	7,300
MW-06	Multiunit 1/EW	Downgradien	4/26/2021	FC-CCR-MW06-0421	5.8	490	2,500	7.87	20,000	29,000	0.0086	0.0036	710	1,600	100	7,400
MW-06	Multiunit 1/EW	Downgradien	11/16/2021	FC-CCR-MW06-1121	6.1	480	5,500	7.02	51,000	34,000	0.00056 J	0.004	660	1,700	95	8,000
MW-06	Multiunit 1/EW	Downgradien	2/8/2022	FC-CCR-MW06-0222	6.1	500	2,900	6.94	21,000	35,000	0.0016	0.0035	670	1,500	100	7,200
MW-06	Multiunit 1/EW	Downgradien	5/25/2022	FC-CCR-MW06-0522	6.0	510	5,800	7.04	21,000	25,000	< 0.001	0.0035	660	1,800	65	8,800
MW-06	Multiunit 1/EW System	Downgradient	9/1/2022	FC-CCR-MW06-0922	6.2	480	3,200	6.97	23,000	33,000	0.0012	0.0056	660	1,800	89	7,200
MW-15	Multiunit 1	Downgradien	9/30/1987	MW-15_9/30/1987	--	--	370	7.30	6,200	9,500	--	--	--	--	--	--
MW-15	Multiunit 1	Downgradien	6/20/1988	MW-15-19880620	--	452	393	7.13	5,224	8,618	--	--	387.96	614	41	1,250
MW-15	Multiunit 1	Downgradien	9/22/1988	MW-15-19880922	1.0	411	200	7.05	4,630	8,570	--	--	414.8	582	34	1,180
MW-15	Multiunit 1	Downgradien	11/14/1988	MW-15-19881114	1.0	409	338	7.13	4,808	8,760	--	--	402.6	677	39	1,160
MW-15	Multiunit 1	Downgradien	3/8/1989	MW-15-19890308	2.0	431	413	7.16	4,980	8,535	--	--	488	514	33	1,260
MW-15	Multiunit 1	Downgradien	9/13/1989	MW-15-19890913	2.0	380	326	7.08	4,974	8,600	--	--	488	580	40	1,100
MW-15	Multiunit 1	Downgradien	3/22/1990	MW-15-19900322	2.0	420	301	7.20	4,616	7,870	--	--	366	520	41	1,050
MW-15	Multiunit 1	Downgradien	9/24/1990	MW-15-19900924	2.0	430	341	7.19	4,790	8,120	--	--	396.5	600	40	1,200
MW-15	Multiunit 1	Downgradien	3/27/1991	MW-15-19910327	3.0	436	298	7.12	4,544	7,660	--	--	427	480	40	925
MW-15	Multiunit 1	Downgradien	9/27/1991	MW-15-19910927	2.0	434	313.6	7.19	4,306	7,720	--	--	396.5	600	45	935
MW-15	Multiunit 1	Downgradien	5/1/1992	MW-15-19920501	5.0	460	299	7.18	4,624	7,075	--	--	366	500	39	900
MW-15	Multiunit 1	Downgradien	10/28/1992	MW-15-19921028	4.0	420	289.8	7.15	4,122	7,110	--	--	396.5	600	40	900
MW-15	Multiunit 1	Downgradien	4/23/1993	MW-15-19930423	3.0	340	375	7.28	4,593	7,760	--	--	518.5	400	41	1,220
MW-15	Multiunit 1	Downgradien	11/22/1993	MW-15-19931122	4.0	420	338	7.05	4,192	7,430	--	--	396.5	500	51	1,000
MW-15	Multiunit 1	Downgradien	4/20/1994	MW-15-19940420	5.0	440	356	7.13	4,556	7,200	--	--	488	500	54	920
MW-15	Multiunit 1	Downgradien	11/8/1994	MW-15-19941108	6.0	480	357	7.02	4,354	7,240	--	--	610	500	50	1,120
MW-15	Multiunit 1	Downgradien	4/5/1995	MW-15-19950405	7.0	460	322	7.10	4,012	6,820	--	--	457.5	500	43	840
MW-15	Multiunit 1	Downgradien	11/18/1995	MW-15-19951118	6.48	460	349.4	6.98	4,301	6,260	--	--	396.5	500	47	1,000
MW-15	Multiunit 1	Downgradien	8/14/1996	MW-15-19960814	5.93	440	347.1	7.06	4,226	7,360	--	--	427	500	37	960
MW-15	Multiunit 1	Downgradien	4/23/1997	MW-15-19970423	7.72	440	311.95	7.22	3,776	6,780	--	--	518.5	400	35	900
MW-15	Multiunit 1	Downgradien	10/8/1997	MW-15-19971008	< 0.05	400	429.4	7.39	4,344	7,780	--	--	457.5	400	36	1,120
MW-15	Multiunit 1	Downgradien	4/14/1998	MW-15-19980414	--	420	348.5	7.02	3,772	7,260	--	--	335.5	400	32	1,150
MW-15	Multiunit 1	Downgradien	5/11/1999	MW-15-19990511	1.8	460	322.5	7.23	3,712	7,040	--	< 0.01	457.5	400	32	820
MW-15	Multiunit 1	Downgradien	12/1/1999	MW-15-19991201	10.1	520	355.8	7.19	3,877	7,000	--	--	366	400	31	1,180

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-15	Multiunit 1	Downgradien	6/8/2000	MW-15-20000608	9.45	454	519.1	7.61	5,662	6,970	--	--	549	573	31.3	1,260
MW-15	Multiunit 1	Downgradien	12/12/2000	MW-15-20001212	9.45	480	373.7	6.90	3,803	--	--	--	549	400	40	1,600
MW-15	Multiunit 1	Downgradien	8/22/2001	MW-15-20010822	10.9	435	328.1	7.00	3,958	7,170	--	--	488	460	32	1,310
MW-15	Multiunit 1	Downgradien	12/3/2001	MW-15-20011203	11.5	600	299.8	6.86	3,944	6,910	--	--	457.5	350	38	1,040
MW-15	Multiunit 1	Downgradien	6/24/2002	MW-15-20020624	11.7	420	358.2	7.31	4,014	7,450	--	--	579.5	400	33	1,060
MW-15	Multiunit 1	Downgradien	12/18/2002	MW-15-20021218	12.2	440	317.3	7.07	3,900	7,390	--	--	488	400	41	1,060
MW-15	Multiunit 1	Downgradien	5/28/2003	MW-15-20030528	13.9	460	342.8	6.88	3,640	7,150	--	--	457.5	400	36	800
MW-15	Multiunit 1	Downgradien	12/24/2003	MW-15-20031224	12.6	340	328	6.99	3,708	7,330	--	--	1,922	500	42	9,000
MW-15	Multiunit 1	Downgradien	6/16/2004	MW-15-20040616	--	420	365.6	6.95	4,043	7,680	--	--	1,678	500	40	220
MW-15	Multiunit 1	Downgradien	11/29/2004	MW-15-20041129	15.2	500	402.8	7.08	2,727	7,900	--	--	3,874	480	34	980
MW-15	Multiunit 1	Downgradien	5/13/2005	MW-15-20050513	11.2	440	368.2	7.00	4,053	7,840	--	--	488	400	51	960
MW-15	Multiunit 1	Downgradien	12/14/2005	MW-15-20051214	14	464	357	6.95	3,943	7,890	--	--	549	526	26.6	1,250
MW-15	Multiunit 1	Downgradien	6/17/2006	MW-15-20060617	13.5	454	328	6.98	4,590	7,730	--	--	439.2	450	25.4	1,080
MW-15	Multiunit 1	Downgradien	10/11/2006	MW-15-20061011	12.9	445	366	7.00	4,980	7,940	--	--	442.86	456	33.5	1,150
MW-15	Multiunit 1	Downgradien	4/18/2007	MW-15-20070418	13.9	441	395	7.08	4,770	7,760	--	--	450.18	432	29.5	1,080
MW-15	Multiunit 1	Downgradien	11/14/2007	MW-15-20071114	11.3	377	480	7.04	5,400	8,610	--	--	512.4	367	27	1,240
MW-15	Multiunit 1	Downgradien	5/7/2008	MW-15-20080507	11.7	382	320	7.08	5,440	8,160	--	--	549	414	29.5	1,180
MW-15	Multiunit 1	Downgradien	11/19/2013	FC-15MS-111913	--	490	--	--	--	--	--	--	--	520	30	1,900
MW-15	Multiunit 1	Downgradien	11/19/2013	FC-15-111913	11	480	830	--	5,500	9,600	--	--	530	510	33	1,900
MW-15	Multiunit 1	Downgradien	9/9/2014	FCPP-15-090914	9.4	450	910	--	5,800	10,000	--	--	560	520	38	2,100
MW-15	Multiunit 1	Downgradien	3/17/2015	FCPP-15-031715	9.2	450	1,000	--	6,300	11,000	--	--	560	510	34	2,000
MW-15	Multiunit 1	Downgradien	6/29/2015	MW-15	9.1	410	1,000	--	5,700	11,000	--	--	560	500	34	2,000
MW-15	Multiunit 1	Downgradien	8/26/2015	FCPP-15-082615	8.8	420	1,100	--	6,500	11,000	--	--	570	450	38	2,300
MW-15	Multiunit 1	Downgradien	6/18/2016	FC-Seep-MW15-616	8.6	470	1,100	--	6,100	11,000	--	--	600	580	38	2,100
MW-15	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW15-916	8.5	430	1,200	--	7,400	11,000	--	--	150	510	38	2,200
MW-15	Multiunit 1	Downgradien	3/20/2019	FC-CCR-MW15-032019	--	--	--	--	--	--	0.0020	0.036	--	--	--	--
MW-15	Multiunit 1	Downgradien	3/20/2019	FC-CCR-MW15-032019	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW15-51419	8.3	440	940	--	6,400	11,000	0.0022	0.0096	--	--	--	--
MW-15	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW15-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	Multiunit 1	Downgradien	11/19/2019	FC-CCR-MW15-111919	8.2	440	1,000	--	6,600	11,000	0.0022	0.0034	--	--	--	--
MW-15	Multiunit 1	Downgradien	6/23/2020	FC-CCR-MW15-0620	8.8	440	990	6.62	6,600	12,000	0.0016	0.0018	--	--	--	--
MW-15	Multiunit 1	Downgradien	11/6/2020	FC-CCR-MW15-1120	7.9	430	1,000	6.68	6,800	11,000	0.0030	0.0020	660	640	41	2,200
MW-15	Multiunit 1	Downgradien	4/27/2021	FC-CCR-MW15-0421	7.8	470	1,000	7.38	6,400	11,000	0.0017 J	0.0016 J	700	710	47	2,100
MW-15	Multiunit 1	Downgradien	11/18/2021	FC-CCR-MW15-1121	7.3	420	1,200	6.66	8,400	11,000	0.0016	0.0014	630	630	37	2,100
MW-15	Multiunit 1	Downgradien	2/8/2022	FC-CCR-MW15-0222	8.2	480	1,100	6.51	7,100	11,000	0.0019	0.0010	680	730	43	2,100
MW-15	Multiunit 1	Downgradien	5/24/2022	FC-CCR-MW15-0522	7.9	440	1,000	6.78	6,500	12,000	0.0018	0.0012	680	680	42	2,300
MW-15	Multiunit 1	Downgradient	8/13/2022	FC-CCR-MW15-0822	8.1	470	1,000	6.70	6,700	11,000	0.0015	0.0013	660	720	39	2,100
MW-16	Multiunit 1	Downgradien	9/30/1987	MW-16_9/30/1987	--	--	770	7.38	12,000	20,000	--	--	--	--	--	--
MW-16	Multiunit 1	Downgradien	6/20/1988	MW-16-19880620	--	412	685	7.41	6,063	19,249	--	--	407.48	1,150	59	4,250
MW-16	Multiunit 1	Downgradien	9/21/1988	MW-16-19880921	2.0	378	664	7.15	11,592	20,028	--	--	488	1,200	53	3,870
MW-16	Multiunit 1	Downgradien	11/14/1988	MW-16-19881114	2.0	358	620	7.30	11,983	20,760	--	--	463.6	1,510	73	3,420
MW-16	Multiunit 1	Downgradien	3/8/1989	MW-16-19890308	2.0	347	683	7.30	12,519	19,880	--	--	488	1,130	59	3,740
MW-16	Multiunit 1	Downgradien	9/13/1989	MW-16-19890913	2.0	320	549	7.31	11,421	18,780	--	--	366	1,173	56	3,500
MW-16	Multiunit 1	Downgradien	3/26/1990	MW-16-19900326	2.0	340	580	7.30	11,981	18,700	--	--	366	950	52	3,800
MW-16	Multiunit 1	Downgradien	9/24/1990	MW-16-19900924	1.0	300	592	7.32	11,738	17,890	--	--	427	1,000	60	3,700
MW-16	Multiunit 1	Downgradien	4/2/1991	MW-16-19910402	2.0	320	677	7.23	11,080	17,420	--	--	457.5	1,000	47	3,400
MW-16	Multiunit 1	Downgradien	10/1/1991	MW-16-19911001	2.0	261	574.4	7.52	9,634	16,260	--	--	366	1,000	55	3,090
MW-16	Multiunit 1	Downgradien	5/7/1992	MW-16-19920507	2.0	250	557.2	7.39	9,994	16,220	--	--	457.5	1,100	46	3,200
MW-16	Multiunit 1	Downgradien	11/5/1992	MW-16-19921105	2.0	320	556	7.32	8,898	15,100	--	--	427	800	48	2,900
MW-16	Multiunit 1	Downgradien	4/26/1993	MW-16-19930426	2.0	330	527.8	7.33	9,830	14,170	--	--	457.5	700	56	2,800

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-16	Multiunit 1	Downgradien	11/23/1993	MW-16-19931123	**2.0**	**330**	**523**	**7.30**	**8,832**	**14,780**	--	--	**396.5**	**800**	**54**	**3,000**
MW-16	Multiunit 1	Downgradien	4/20/1994	MW-16-19940420	**2.0**	**390**	**581**	**7.28**	**9,260**	**15,320**	--	--	**457.5**	**900**	**64**	**2,900**
MW-16	Multiunit 1	Downgradien	9/21/1994	MW-16-19940921	**2.0**	**350**	**517**	**7.33**	**8,530**	**14,040**	--	--	**427**	**800**	**55**	**2,700**
MW-16	Multiunit 1	Downgradien	4/4/1995	MW-16-19950404	**1.0**	**390**	**531**	**7.34**	**8,186**	**13,220**	--	--	**457.5**	**800**	**50**	**2,700**
MW-16	Multiunit 1	Downgradien	11/21/1995	MW-16-19951121	**3.06**	**400**	**428.6**	**7.34**	**7,076**	**11,890**	--	--	**274.5**	**700**	**51**	**2,000**
MW-16	Multiunit 1	Downgradien	8/15/1996	MW-16-19960815	**2.79**	**320**	**424.4**	**7.31**	**7,115**	**11,820**	--	--	**457.5**	**700**	**44**	**2,300**
MW-16	Multiunit 1	Downgradien	4/15/1997	MW-16-19970415	**3.49**	**340**	**408.5**	**7.59**	**6,336**	**11,240**	--	--	**488**	**600**	**41**	**1,900**
MW-16	Multiunit 1	Downgradien	10/8/1997	MW-16-19971008	< 0.05	**320**	**414.3**	**7.42**	**6,952**	**10,850**	--	--	**488**	**600**	**43**	**1,900**
MW-16	Multiunit 1	Downgradien	4/15/1998	MW-16-19980415	**3.32**	**420**	**385.5**	**7.27**	**6,311**	**11,220**	--	**0.030**	**732**	**700**	**41**	**1,800**
MW-16	Multiunit 1	Downgradien	5/11/1999	MW-16-19990511	**3.9**	**440**	**412.6**	**7.38**	**6,520**	**11,790**	--	--	**488**	**700**	**44**	**1,700**
MW-16	Multiunit 1	Downgradien	11/30/1999	MW-16-19991130	**4.0**	**520**	**417.9**	**7.54**	**6,331**	**10,980**	--	--	**457.5**	**700**	**36**	**2,400**
MW-16	Multiunit 1	Downgradien	6/8/2000	MW-16-20000608	**4.73**	**462**	**618.3**	**7.20**	**7,616**	**11,390**	--	--	**701.5**	**819**	**40**	**1,930**
MW-16	Multiunit 1	Downgradien	12/12/2000	MW-16-20001212	**4.97**	**540**	**426.7**	**7.00**	**6,014**	--	--	--	**610**	**700**	**48**	**2,300**
MW-16	Multiunit 1	Downgradien	8/22/2001	MW-16-20010822	**5.44**	**480**	**434**	**7.28**	**5,883**	**9,990**	--	--	**427**	**820**	**46**	**2,200**
MW-16	Multiunit 1	Downgradien	12/3/2001	MW-16-20011203	**5.7**	**620**	**386.4**	**7.21**	**5,470**	**10,240**	--	--	**518.5**	**600**	**38**	**2,600**
MW-16	Multiunit 1	Downgradien	6/12/2002	MW-16-20020612	**5.47**	**420**	**493.5**	**7.57**	**6,693**	**11,830**	--	--	**610**	**800**	**42**	**2,000**
MW-16	Multiunit 1	Downgradien	12/18/2002	MW-16-20021218	**64.2**	**440**	**429.8**	**7.52**	**5,924**	**10,780**	--	< 0.01	**457.5**	**600**	**43**	**1,600**
MW-16	Multiunit 1	Downgradien	5/29/2003	MW-16-20030529	**6.55**	**480**	**536.6**	**7.21**	**6,005**	**11,460**	--	--	**579.5**	**700**	**46**	**240**
MW-16	Multiunit 1	Downgradien	12/24/2003	MW-16-20031224	**6.59**	**330**	**415**	**7.22**	**5,816**	**10,330**	--	--	**1,464**	**700**	**44**	**1,300**
MW-16	Multiunit 1	Downgradien	6/16/2004	MW-16-20040616	--	**440**	**429.3**	**7.17**	**6,128**	**10,350**	--	--	**3,142**	**700**	**43**	**1,800**
MW-16	Multiunit 1	Downgradien	11/29/2004	MW-16-20041129	**8.8**	**420**	**411.9**	**7.23**	**3,752**	**10,080**	--	--	**3,233**	**650**	**50**	**1,600**
MW-16	Multiunit 1	Downgradien	6/13/2005	MW-16-20050613	**7.41**	**470**	**371.6**	**7.25**	**5,373**	**9,900**	--	--	**396.5**	**500**	**40**	**960**
MW-16	Multiunit 1	Downgradien	10/31/2005	MW-16-20051031	--	--	**351.2**	**7.10**	**5,078**	**9,410**	--	--	**335.5**	--	--	--
MW-16	Multiunit 1	Downgradien	5/16/2006	MW-16-20060516	**10.3**	**460**	**322**	**7.18**	**5,440**	**9,200**	--	--	**340.38**	**613**	**32.5**	**1,190**
MW-16	Multiunit 1	Downgradien	10/11/2006	MW-16-20061011	**9.63**	**463**	**327**	**7.18**	**6,010**	**9,160**	--	< 0.012	**340.38**	**624**	**36.2**	**1,160**
MW-16	Multiunit 1	Downgradien	4/18/2007	MW-16-20070418	**9.69**	**460**	**380**	**7.22**	**5,860**	**9,040**	--	--	**347.7**	**579**	**31.9**	**1,170**
MW-16	Multiunit 1	Downgradien	11/14/2007	MW-16-20071114	**8.78**	**391**	**374**	**7.22**	**5,700**	**9,040**	--	--	**375.76**	**478**	**30**	**1,120**
MW-16	Multiunit 1	Downgradien	5/7/2008	MW-16-20080507	**9.7**	**400**	**330**	**7.27**	**6,020**	**8,780**	--	--	**378.2**	**536**	**32.6**	**1,120**
MW-16	Multiunit 1	Downgradien	12/4/2009	MW-16-20091204	**10.7**	**408**	**360**	**7.21**	**4,900**	**8,250**	--	< 0.0025	**326.96**	**475**	**28.1**	**1,020**
MW-16	Multiunit 1	Downgradien	9/27/2012	MW-16-092712-01	**9.5**	**400**	**450**	--	**5,400**	**8,900**	--	--	**320**	**510**	**33**	**1,300**
MW-16	Multiunit 1	Downgradien	11/19/2013	FC-16-111913	**7.3**	**490**	**680**	--	**6,200**	**11,000**	--	--	**490**	**700**	**36**	**1,600**
MW-16	Multiunit 1	Downgradien	3/12/2014	FC-16-031214	**7.6**	**460**	**690**	--	**6,500**	**11,000**	--	--	**490**	**660**	**37**	**1,700**
MW-16	Multiunit 1	Downgradien	9/9/2014	FCPP-16-090914	**7.7**	**440**	**670**	--	**6,300**	**10,000**	--	--	**490**	**660**	**39**	**1,700**
MW-16	Multiunit 1	Downgradien	3/17/2015	FCPP-16-031715	**8.8**	**460**	**820**	--	**6,300**	**10,000**	--	--	**510**	**680**	**37**	**1,600**
MW-16	Multiunit 1	Downgradien	6/29/2015	MW-16	**8.7**	**430**	**940**	--	**6,200**	**12,000**	--	--	**520**	**710**	**39**	**1,600**
MW-16	Multiunit 1	Downgradien	8/26/2015	FCPP-16-082615	**8.3**	**440**	**890**	--	**7,700**	**12,000**	--	--	**520**	**690**	**44**	**1,800**
MW-16	Multiunit 1	Downgradien	11/10/2015	FC MW-16-(111115)	**8.1**	**530**	**1,000**	--	**9,000**	**17,000**	--	--	**480**	**1,200**	**48**	**2,500**
MW-16	Multiunit 1	Downgradien	6/18/2016	FC-Seep-MW16-616	**8.0**	**470**	**1,200**	--	**8,500**	**15,000**	--	--	**540**	**1,100**	**48**	**2,600**
MW-16	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW16-916	**7.5**	**420**	**1,300**	--	**12,000**	**16,000**	--	--	**530**	**1,100**	**49**	**2,600**
MW-16	Multiunit 1	Downgradien	3/20/2019	FC-CCR-MW16-032019	--	--	--	--	--	--	**0.0062**	**0.0033**	--	--	--	--
MW-16	Multiunit 1	Downgradien	3/20/2019	FC-CCR-MW16-032019	--	--	--	--	--	--	--	--	--	--	--	--
MW-16	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW16-51419	**6.6**	**410**	**1,300**	--	**11,000**	**17,000**	**0.0054**	**0.0018**	--	--	--	--
MW-16	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW16-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-16	Multiunit 1	Downgradien	5/14/2019	*DUP* FC-CCR-FD02-51419	**6.6**	**410**	**1,000**	--	**10,000**	**17,000**	**0.0052**	**0.0018**	--	--	--	--
MW-16	Multiunit 1	Downgradien	5/14/2019	*DUP* FC-CCR-FD02-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-16	Multiunit 1	Downgradien	11/19/2019	FC-CCR-MW16-111919	**7.1**	**420**	**900**	--	**11,000**	**17,000**	**0.0072**	**0.00073**	--	--	--	--
MW-16	Multiunit 1	Downgradien	6/23/2020	FC-CCR-MW16-0620	**7.8**	**430**	**870**	**6.81**	**12,000**	**18,000**	**0.0068**	< 0.001	--	--	--	--
MW-16	Multiunit 1	Downgradien	11/6/2020	FC-CCR-MW16-1120	**7.3**	**410**	**1,400**	**6.90**	**11,000**	**16,000**	**0.0058**	< 0.002	**610**	**1,300**	**54**	**3,000**
MW-16	Multiunit 1	Downgradien	4/27/2021	FC-CCR-MW16-0421	**7.9**	**420**	**780**	**7.67**	**11,000**	**18,000**	**0.0071**	**0.00088 J**	**650**	**1,400**	**58**	**3,100**
MW-16	Multiunit 1	Downgradien	11/18/2021	FC-CCR-MW16-1121	**8.4**	**430**	**1,300**	**6.86**	**22,000**	**18,000**	**0.0074**	**0.00079 J**	**580**	**1,300**	**50**	**3,100**

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-16	Multiunit 1	Downgradien	2/8/2022	FC-CCR-MW16-0222	9.0	470	840	6.73	12,000	19,000	0.0062	0.00057	620	1,400	59	3,000
MW-16	Multiunit 1	Downgradien	5/26/2022	FC-CCR-MW16-0522	8.5	480	1,200	6.97	22,000	19,000	0.0067	< 0.001	600	1,500	60	3,500
MW-16	Multiunit 1	Downgradient	8/13/2022	FC-CCR-MW16-0822	8.9	430	770	6.90	12,000	18,000	0.0062	0.00056	600	1,400	52	3,100
MW-17R	Multiunit 1	Downgradien	3/12/2014	FC-17R-031214	34	470	400	--	3,900	6,100	--	--	120	280	19	960
MW-17R	Multiunit 1	Downgradien	9/9/2014	FCPP-17R-090914	33	420	370	--	3,900	6,300	--	--	120	270	21	990
MW-17R	Multiunit 1	Downgradien	3/17/2015	FCPP-17R-031715	34	450	420	--	4,100	6,200	--	--	120	270	19	980
MW-17R	Multiunit 1	Downgradien	6/30/2015	MW-17R	34	430	410	--	3,600	6,300	--	--	120	280	20	980
MW-17R	Multiunit 1	Downgradien	8/25/2015	FCPP-17R-082515	33	460	420	--	4,100	6,500	--	--	130	290	23	1,000
MW-17R	Multiunit 1	Downgradien	11/4/2015	FC MW-17R-(041115)	30	440	--	--	--	--	--	--	--	420	29	1,300
MW-17R	Multiunit 1	Downgradien	11/13/2015	FC MW-17R-(131115)	36	430	400	--	4,000	6,500	--	--	130	280	21	1,100
MW-17R	Multiunit 1	Downgradien	6/18/2016	FC-Seep-MW17B-616	33	470	400	--	3,800	6,600	--	--	130	290	20	1,100
MW-17R	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW17R-916	36	430	370	--	4,100	6,400	--	--	120	260	21	1,000
MW-17R	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW17R-031919	--	--	--	--	--	--	0.065	0.0014	--	--	--	--
MW-17R	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW17R-031919	--	--	--	--	--	--	--	--	--	--	--	--
MW-17R	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW17R-51419	33	440	390	--	4,000	6,200	0.064	0.0014	--	--	--	--
MW-17R	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW17R-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-17R	Multiunit 1	Downgradien	5/14/2019	*DUP* FC-CCR-FD01-51419	33	430	380	--	3,900	6,300	0.064	0.0013	--	--	--	--
MW-17R	Multiunit 1	Downgradien	5/14/2019	*DUP* FC-CCR-FD01-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-17R	Multiunit 1	Downgradien	11/19/2019	FC-CCR-MW17R-111919	36	460	390	--	4,100	6,200	0.071	0.0014	--	--	--	--
MW-17R	Multiunit 1	Downgradien	6/22/2020	FC-CCR-MW17R-0620	36	440	380	7.14	3,900	6,100	0.062	0.0069	--	--	--	--
MW-17R	Multiunit 1	Downgradien	11/7/2020	FC-CCR-MW17R-1120	36	440	400	7.24	4,300	5,900	0.072	0.034	140	260	20	1,100
MW-17R	Multiunit 1	Downgradien	4/25/2021	FC-CCR-MW17R-0421	36	470	390	8.06	4,000	6,200	0.066	0.0014 J	140	290	22	1,100
MW-17R	Multiunit 1	Downgradien	11/16/2021	FC-CCR-MW17R-1121	39	470	490	7.12	5,700	6,300	0.072	0.0013	130	290	21	1,100
MW-17R	Multiunit 1	Downgradien	2/9/2022	FC-CCR-MW17R-0222	37	480	450	7.22	4,600	6,400	0.061	0.0012	140	300	20	1,100
MW-17R	Multiunit 1	Downgradien	2/9/2022	*DUP* FC-CCR-FD01-0222	36	460	440	7.22	4,500	6,300	0.061	0.0011	140	280	20	1,000
MW-17R	Multiunit 1	Downgradien	5/25/2022	FC-CCR-MW17R-0522	34	440	400	7.11	8,500	6,500	0.057	0.0011	130	280	20	1,200
MW-17R	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW17R-0822	35	450	430	7.11	4,000	6,400	0.063	0.00095	130	280	18	1,000
MW-18	Multiunit 1	Downgradien	9/29/1987	MW-18_9/29/1987	--	--	480	7.45	9,500	15,000	--	--	--	--	--	--
MW-18	Multiunit 1	Downgradien	6/15/1988	MW-18-19880615	--	428	901	7.11	9,631	18,180	--	--	524.6	1,475	56	3,600
MW-18	Multiunit 1	Downgradien	9/21/1988	MW-18-19880921	1.0	377	703	7.18	9,681	18,120	--	--	488	1,220	49	2,530
MW-18	Multiunit 1	Downgradien	11/28/1988	MW-18-19881128	1.0	369	626	7.18	11,222	16,320	--	--	451.4	1,520	53	1,830
MW-18	Multiunit 1	Downgradien	2/27/1989	MW-18-19890227	1.0	408	692	7.19	10,056	16,895	--	--	488	1,230	53	2,550
MW-18	Multiunit 1	Downgradien	9/11/1989	MW-18-19890911	1.0	340	516	7.21	9,057	15,200	--	--	395.28	1,275	46	2,300
MW-18	Multiunit 1	Downgradien	3/26/1990	MW-18-19900326	1.0	380	667	7.20	9,976	16,490	--	--	427	1,100	48	2,700
MW-18	Multiunit 1	Downgradien	9/18/1990	MW-18-19900918	1.0	340	549	7.23	9,780	16,475	--	--	396.5	1,000	50	2,400
MW-18	Multiunit 1	Downgradien	5/30/1991	MW-18-19910530	1.0	350	1,147	7.10	13,240	20,660	--	--	732	1,440	56	4,310
MW-18	Multiunit 1	Downgradien	9/11/1991	MW-18-19910911	1.0	370	773	7.24	10,542	17,250	--	--	488	1,440	56	2,820
MW-18	Multiunit 1	Downgradien	5/5/1992	MW-18-19920505	1.0	210	1,772	7.32	17,150	27,820	--	--	915	1,600	69	6,400
MW-18	Multiunit 1	Downgradien	10/27/1992	MW-18-19921027	1.0	240	1,789	7.00	19,960	28,980	--	--	976	1,400	81	6,600
MW-18	Multiunit 1	Downgradien	4/26/1993	MW-18-19930426	1.0	290	1,506	7.08	18,415	22,480	--	--	854	1,300	77	5,000
MW-18	Multiunit 1	Downgradien	11/23/1993	MW-18-19931123	1.0	320	1,330	7.06	19,000	19,210	--	--	579.5	1,200	63	3,600
MW-18	Multiunit 1	Downgradien	4/21/1994	MW-18-19940421	1.0	380	699	7.22	12,560	18,170	--	--	579.5	1,400	71	3,600
MW-18	Multiunit 1	Downgradien	9/20/1994	MW-18-19940920	1.0	370	846	7.13	10,340	18,330	< 0.02	< 0.01	549	1,200	73	3,600
MW-18	Multiunit 1	Downgradien	12/14/1994	MW-18-19941214	--	400	--	7.32	--	--	< 0.25	--	--	1,000	38	2,100
MW-18	Multiunit 1	Downgradien	4/5/1995	MW-18-19950405	1.0	300	1,134	7.09	14,220	23,650	--	--	854	1,400	71	5,000
MW-18	Multiunit 1	Downgradien	12/13/1995	MW-18-19951213	0.74	350	921.5	7.16	11,850	18,500	--	--	610	1,400	70	5,000
MW-18	Multiunit 1	Downgradien	8/12/1996	MW-18-19960812	0.50	220	884.5	7.19	11,253	19,330	0.050	< 0.01	640.5	1,200	56	3,800
MW-18	Multiunit 1	Downgradien	4/23/1997	MW-18-19970423	0.94	180	1,586	7.14	13,940	25,750	--	--	396.5	1,200	70	6,200
MW-18	Multiunit 1	Downgradien	10/20/1997	MW-18-19971020	< 0.05	200	605.6	7.47	8,757	15,120	--	--	579.5	1,000	47	2,400
MW-18	Multiunit 1	Downgradien	4/14/1998	MW-18-19980414	--	400	547.6	7.24	8,297	15,840	--	--	549	1,100	47	3,000

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-18	Multiunit 1	Downgradien	6/8/1999	MW-18-19990608	1.6	--	--	7.76	9,699	16,510	--	--	488	1,100	43	2,600
MW-18	Multiunit 1	Downgradien	12/8/1999	MW-18-19991208	--	420	601.8	7.29	8,860	15,460	--	--	366	1,000	45	3,600
MW-18	Multiunit 1	Downgradien	6/8/2000	MW-18-20000608	1.57	425	866.6	7.26	11,148	12,960	--	--	579.5	990	38	2,040
MW-18	Multiunit 1	Downgradien	11/28/2000	MW-18-20001128	1.67	450	441.2	7.15	7,021	13,380	--	--	518.5	800	43	2,400
MW-18	Multiunit 1	Downgradien	8/21/2001	MW-18-20010821	1.29	460	490	7.11	5,668	25,800	--	--	579.5	1,240	49	2,800
MW-18	Multiunit 1	Downgradien	12/5/2001	MW-18-20011205	1.3	420	598.8	7.16	8,647	14,750	--	--	610	1,000	43	3,800
MW-18	Multiunit 1	Downgradien	6/12/2002	MW-18-20020612	1.29	360	435	7.42	6,795	11,830	--	--	671	800	40	2,200
MW-18	Multiunit 1	Downgradien	12/18/2002	MW-18-20021218	1.35	390	584.6	7.45	8,137	14,690	--	--	488	900	39	2,600
MW-18	Multiunit 1	Downgradien	6/3/2003	MW-18-20030603	--	370	430	7.23	5,332	14,490	--	--	457.5	800	47	4,600
MW-18	Multiunit 1	Downgradien	9/24/2003	MW-18-20030924	0.76	315	444	7.19	7,104	12,560	--	--	579.5	500	22.5	1,800
MW-18	Multiunit 1	Downgradien	6/16/2004	MW-18-20040616	--	350	494.2	7.22	7,197	12,750	--	--	2,959	900	43	2,600
MW-18	Multiunit 1	Downgradien	11/9/2004	MW-18-20041109	1.0	435	445.4	7.29	6,620	12,680	0.0060	0.00122	3,233	860	35.7	1,750
MW-18	Multiunit 1	Downgradien	5/12/2005	MW-18-20050512	0.787	420	594.8	7.13	7,685	13,980	0.0020	--	366	900	47	2,400
MW-18	Multiunit 1	Downgradien	11/1/2005	MW-18-20051101	0.784	401	752	6.98	8,431	16,100	--	--	579.5	962	44.3	2,770
MW-18	Multiunit 1	Downgradien	5/15/2006	MW-18-20060515	0.792	418	595	7.17	8,560	14,500	< 0.004	< 0.006	457.5	908	41.9	2,420
MW-18	Multiunit 1	Downgradien	10/13/2006	MW-18-20061013	0.775	449	522	7.15	8,640	11,700	< 0.002	< 0.012	386.74	880	37.6	2,020
MW-18	Multiunit 1	Downgradien	4/18/2007	MW-18-20070418	0.96	416	723	7.16	9,600	14,600	< 0.008	< 0.12	475.8	864	41.4	2,300
MW-18	Multiunit 1	Downgradien	11/20/2007	MW-18-20071120	0.781	359	600	7.22	7,500	13,700	0.00138	0.0012	444.08	692	32.9	1,740
MW-18	Multiunit 1	Downgradien	4/30/2008	MW-18-20080430	0.80	379	550	7.26	8,630	12,900	0.00247	< 0.0005	524.6	827	41.5	1,850
MW-18	Multiunit 1	Downgradien	12/3/2009	MW-18-20091203	1.0	376	1,460	7.05	12,200	20,900	0.00247	0.0012	915	848	49.1	4,540
MW-18	Multiunit 1	Downgradien	9/27/2012	MW-18-092712-01	1.0	400	2,200	--	13,000	21,000	--	--	730	1,000	57	5,400
MW-18	Multiunit 1	Downgradien	11/19/2013	FC-18-111913	1.1	480	2,100	--	12,000	20,000	--	--	720	930	57	4,800
MW-18	Multiunit 1	Downgradien	3/12/2014	FC-18-031214	1.0	430	2,400	--	12,000	19,000	--	--	720	800	58	4,900
MW-18	Multiunit 1	Downgradien	9/10/2014	FCPP-18-091014	1.1	390	2,300	--	13,000	22,000	--	--	740	920	59	5,200
MW-18	Multiunit 1	Downgradien	3/18/2015	FCPP-18-031815	1.1	450	2,900	--	14,000	24,000	--	--	750	890	55	5,500
MW-18	Multiunit 1	Downgradien	6/30/2015	MW-18	1.1	400	2,400	--	12,000	22,000	--	--	740	790	60	5,200
MW-18	Multiunit 1	Downgradien	8/25/2015	FCPP-18-082515	1.1	430	3,300	--	14,000	23,000	--	--	740	760	68	5,300
MW-18	Multiunit 1	Downgradien	11/6/2015	FC MW-18-(061115)	1.3	460	2,700	--	13,000	22,000	--	--	750	940	56	5,900
MW-18	Multiunit 1	Downgradien	6/17/2016	FC-Seep-MW18-616	1.0	440	3,300	--	13,000	24,000	--	--	820	840	65	6,600
MW-18	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW18-916	1.3	430	660	--	8,800	13,000	--	--	450	790	45	2,100
MW-18	Multiunit 1	Downgradien	6/22/2020	FC-CCR-MW18-0620	--	--	--	6.65	--	--	0.011	0.0022	--	--	--	--
MW-18	Multiunit 1	Downgradien	11/7/2020	FC-CCR-MW18-1120	1.1	--	--	6.74	--	--	0.076	0.0024	--	--	--	--
MW-18	Multiunit 1	Downgradien	4/25/2021	FC-CCR-MW18-0421	1.3	510	4,800	7.37	16,000	5,900	0.012	0.0023	900	1,100	110	7,100
MW-18	Multiunit 1	Downgradien	11/16/2021	FC-CCR-MW18-1121	1.2	510	5,100	6.65	16,000	28,000 J	0.012	0.0017	850	1,100	93	7,400
MW-18	Multiunit 1	Downgradien	2/8/2022	FC-CCR-MW18-0222	1.3	520	9,800	6.59	15,000	26,000	0.010	0.0014	970	990	110	6,800
MW-18	Multiunit 1	Downgradien	5/25/2022	FC-CCR-MW18-0522	1.2	470	9,200	6.67	37,000	25,000	0.0098	0.0017	950	1,100	96	7,600
MW-18	Multiunit 1	Downgradient	8/12/2022	FC-CCR-MW18-0822	1.3	520	4,600	6.34	15,000	28,000	0.0094	0.0016	950	1,100	93	7,200
MW-24	Multiunit 1	Downgradien	3/19/2015	FCPP-24-031915	1.1	400	4,100	--	10,000	21,000	--	--	170	210	36	6,200
MW-24	Multiunit 1	Downgradien	6/29/2015	MW-24	1.1	350	3,700	--	10,000	20,000	--	--	160	220	68	6,000
MW-24	Multiunit 1	Downgradien	8/26/2015	FCPP-24-082615	0.99	410	5,100	--	12,000	23,000	--	--	230	190	59	6,800
MW-24	Multiunit 1	Downgradien	6/20/2016	FC-Seep-MW24-616	1.0	490	4,500	--	11,000	23,000	--	--	320	210	45	7,800
MW-24	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW24-916	0.96	420	4,200	--	11,000	23,000	--	--	340	180	42	7,800
MW-24	Multiunit 1	Downgradien	4/26/2021	FC-CCR-MW24-0421	1.0	510	5,600	8.07	14,000	23,000	0.0021	0.15	320	220	62	7,700
MW-24	Multiunit 1	Downgradien	11/16/2021	FC-CCR-MW24-1121	1.0	490	5,200	7.18	13,000	23,000 J	0.0042	0.034	290	210	49	6,900
MW-24	Multiunit 1	Downgradien	2/8/2022	FC-CCR-MW24-0222	1.0	510	4,800	7.11	12,000	24,000	0.0026	0.029	300	210	60	6,600
MW-24	Multiunit 1	Downgradien	5/25/2022	FC-CCR-MW24-0522	0.94	460	5,000	7.21	12,000	19,000	0.0023	0.028	290	190	46	7,300
MW-24	Multiunit 1	Downgradient	8/12/2022	FC-CCR-MW24-0822	1.0	510	4,600	7.12	11,000	22,000	0.0029	0.026	290	210	50	7,300
MW-34	Multiunit 1/EW	Downgradien	6/23/2020	FC-CCR-MW34-0620	11	410	350	--	5,000	7,700	0.029	0.0084	210	480	28	1,100
MW-36R	Multiunit 1	Downgradien	3/12/2014	FC-36R-031214	35	490	560	--	4,100	6,900	--	--	190	460	24	970
MW-36R	Multiunit 1	Downgradien	9/9/2014	FCPP-36R-090914	32	450	560	--	4,200	7,100	--	--	190	470	27	1,000

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-36R	Multiunit 1	Downgradien	3/19/2015	FCPP-36R-031915	27	460	620	--	5,200	8,400	--	--	240	560	26	1,100
MW-36R	Multiunit 1	Downgradien	6/30/2015	MW-36R	37	440	620	--	4,100	7,600	--	--	190	460	25	980
MW-36R	Multiunit 1	Downgradien	8/25/2015	FCPP-36R-082515	21	440	650	--	5,500	8,900	--	--	250	560	30	1,100
MW-36R	Multiunit 1	Downgradien	11/3/2015	FC MW-36R-(031115)	28	480	--	--	--	8,400	--	--	--	570	26	1,100
MW-36R	Multiunit 1	Downgradien	11/13/2015	FC MW-36R-(131115)	23	390	610	--	4,700	8,300	--	--	220	530	24	1,000
MW-36R	Multiunit 1	Downgradien	6/17/2016	FC-Seep-MW36R-616	28	460	640	--	4,800	7,900	--	--	230	520	27	1,100
MW-36R	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW36R-916	50	430	540	--	4,100	6,600	--	--	160	340	25	960
MW-36R	Multiunit 1	Downgradien	6/21/2020	FC-CCR-MW36R-0620	--	--	--	b	--	--	0.26	0.0013	--	--	--	--
MW-36R	Multiunit 1	Downgradien	11/7/2020	FC-CCR-MW36R-1120	53	--	--	7.21	--	--	0.26	0.0010	--	--	--	--
MW-36R	Multiunit 1	Downgradien	11/7/2020	*DUP* FC-CCR-FD04-1120	55	--	--	--	--	--	0.29	0.0018	--	--	--	--
MW-36R	Multiunit 1	Downgradien	4/25/2021	FC-CCR-MW36R-0421	53	500	510	8.04	4,300	6,800	0.26	0.0012 J	230	430	29	990
MW-36R	Multiunit 1	Downgradien	11/14/2021	FC-CCR-MW36R	57	--	--	7.16	--	--	0.26	0.00056 J	--	--	--	--
MW-36R	Multiunit 1	Downgradien	2/9/2022	FC-CCR-MW36R-0222	1.6	490	500	7.21	4,300	7,500	0.00059	0.0049	230	2,500	90	6,200
MW-36R	Multiunit 1	Downgradien	5/25/2022	FC-CCR-MW36R-0522	51	460	460	7.06	3,900	7,200	0.21	< 0.001	220	400	25	1,100
MW-36R	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW36R-0822	52	470	490	7.34	4,100	6,600	0.21	0.00074	220	400	23	960
MW-38R	Multiunit 1	Downgradien	3/12/2014	FC-38R-031214	39	440	1,300	--	12,000	18,000	--	--	430	1,200	35	3,200
MW-38R	Multiunit 1	Downgradien	9/11/2014	FCPP-38R-91114	43	420	1,400	--	20,000	32,000	--	--	540	2,000	50	5,600
MW-38R	Multiunit 1	Downgradien	3/19/2015	FCPP-38R-031915	34	410	1,200	--	18,000	29,000	--	--	490	1,700	51	4,900
MW-38R	Multiunit 1	Downgradien	6/30/2015	MW-38R	35	390	710	--	9,500	16,000	--	--	270	770	30	3,000
MW-38R	Multiunit 1	Downgradien	8/29/2015	FCPP-38R-082915	33	420	560	--	8,800	14,000	--	--	240	650	26	2,500
MW-38R	Multiunit 1	Downgradien	11/10/2015	FC MW-38R-(101115)	34	490	810	--	16,000	20,000	--	--	370	1,400	51	4,300
MW-38R	Multiunit 1	Downgradien	6/21/2016	FC-SEEPS-MW-38R-DUP 06211	27	400	520	--	8,200	12,000	--	--	270	690	33	2,500
MW-38R	Multiunit 1	Downgradien	6/21/2016	FC-SEEPS-MW-38R-062116	25	400	590	--	9,400	15,000	--	--	310	760	39	2,700
MW-38R	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW38R-916	26	380	420	--	7,700	12,000	--	--	240	690	36	2,800
MW-38R	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW106-916	27	390	470	--	8,600	13,000	--	--	260	670	34	2,500
MW-38R	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW38R-031919	--	--	--	--	--	--	0.17	0.016	--	--	--	--
MW-38R	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW38R-031919	--	--	--	--	--	--	--	--	--	--	--	--
MW-38R	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW38R-51419	24	400	300	--	4,900	8,200	0.16	0.083	--	--	--	--
MW-38R	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW38R-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-38R	Multiunit 1	Downgradien	11/19/2019	FC-CCR-MW38R-111919	26	450	270	--	4,000	6,100	0.23	0.0050	--	--	--	--
MW-38R	Multiunit 1	Downgradien	11/19/2019	*DUP* FC-CCR-FD01-111919	27	450	270	--	4,000	5,900	0.23	0.0049	--	--	--	--
MW-38R	Multiunit 1	Downgradien	6/22/2020	FC-CCR-MW38R-0620	29	450	290	6.96	3,700	5,600	0.24	0.0057	120	290	20	920
MW-38R	Multiunit 1	Downgradien	6/22/2020	*DUP* FC-CCR-FD05-0620	30	440	290	--	3,800	5,400	0.28	0.0063	130	300	19	910
MW-38R	Multiunit 1	Downgradien	11/6/2020	FC-CCR-MW38R-1120	27	490 / 430	280	7.03	4,000	5,800	0.28	0.0073	120	300	16 / 18	970
MW-38R	Multiunit 1	Downgradien	4/27/2021	FC-CCR-MW384R-0421	29	490	310 J	7.79	4,100	5,900	0.25	0.0065	130	310	20	970
MW-38R	Multiunit 1	Downgradien	11/16/2021	FC-CCR-MW38R-1121	27	460	320	6.94	4,500	6,000	0.25	0.0060	120	280	17	920
MW-38R	Multiunit 1	Downgradien	2/9/2022	FC-CCR-MW38R-0222	27	470	320	7.01	4,400	6,000	0.22	0.0048	130	290	17	920
MW-38R	Multiunit 1	Downgradien	5/25/2022	FC-CCR-MW38R-0522	27	440	310	6.97	4,600	6,200	0.26	0.019	130	270	18	1,000
MW-38R	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW38R-0822	26	430	330	7.41	4,400	6,600	0.20	0.028	140	330	18	1,100
MW-56	Multiunit 1	Downgradien	3/12/2014	FC-56-031214	3.4	460	1,300	--	12,000	20,000	--	--	570	1,700	61	3,700
MW-56	Multiunit 1	Downgradien	9/10/2014	FCPP-56-091014	3.5	320	1,000	--	11,000	16,000	--	--	470	1,400	52	3,100
MW-56	Multiunit 1	Downgradien	3/19/2015	FCPP-56-031915	2.4	450	1,500	--	14,000	21,000	--	--	670	2,000	64	4,600
MW-56	Multiunit 1	Downgradien	6/30/2015	MW-56	2.2	410	1,600	--	14,000	24,000	--	--	740	1,800	61	3,900
MW-56	Multiunit 1	Downgradien	8/25/2015	FCPP-56-082515	1.9	430	2,300	--	18,000	29,000	--	--	1,000	2,000	78	4,400
MW-56	Multiunit 1	Downgradien	11/5/2015	FC MW-56-(051115)	2.2	480	2,100	--	17,000	25,000	0.0041	0.0046	950	2,000	64	4,400
MW-56	Multiunit 1	Downgradien	6/18/2016	FC-Seep-MW56-616	2.5	450	1,600	--	12,000	21,000	--	--	710	1,600	61	3,800
MW-56	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW56-916	5.4	390	670	--	7,600	13,000	--	--	380	770	40	1,800
MW-56	Multiunit 1	Downgradien	3/20/2019	FC-CCR-MW56-032019	--	--	--	--	--	--	0.00075	0.089	--	--	--	--
MW-56	Multiunit 1	Downgradien	3/20/2019	FC-CCR-MW56-032019	--	--	--	--	--	--	--	--	--	--	--	--
MW-56	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW56-51419	2.7	440	1,700	--	13,000	22,000	0.00054	0.019	--	--	--	--

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-56	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW56-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-56	Multiunit 1	Downgradien	11/19/2019	FC-CCR-MW56-111919	2.4	460	1,900	--	15,000	24,000	0.00056	0.0053	--	--	--	--
MW-56	Multiunit 1	Downgradien	6/22/2020	FC-CCR-MW56-0620	2.2	460	2,000	7.00	16,000	28,000	< 0.002	0.0045	--	--	--	--
MW-56	Multiunit 1	Downgradien	11/7/2020	FC-CCR-MW56-1120	2.0	460	2,100	6.84	16,000	27,000	0.00074	0.0047	750	2,200	83	4,900
MW-56	Multiunit 1	Downgradien	4/26/2021	FC-CCR-MW56-0421	1.8	490	2,300	7.43	19,000	28,000	0.00051 J	0.0043	800	2,500	100	5,100
MW-56	Multiunit 1	Downgradien	11/16/2021	FC-CCR-MW56-1121	1.8	470	2,400	6.83	20,000	30,000 J	0.00062 J	0.0045	800	2,500	78	4,900
MW-56	Multiunit 1	Downgradien	2/8/2022	FC-CCR-MW56-0222	53	490	2,400	6.98	19,000	29,000	0.25	0.00097	890	410	25	930
MW-56	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW56-0822	1.6	500	2,200	7.24	18,000	30,000	0.00081	0.0043	870	2,500	83	5,100
MW-57	Multiunit 1	Downgradien	3/12/2014	FC-57-031214	4.9	450	360	--	5,800	8,900	--	--	260	540	33	1,700
MW-57	Multiunit 1	Downgradien	9/9/2014	FCPP-57MS-090914	7.8	440	--	--	--	--	--	--	--	470	31	1,500
MW-57	Multiunit 1	Downgradien	9/9/2014	FCPP-57-090914	10	440	330	--	5,400	8,700	--	--	240	430	28	1,400
MW-57	Multiunit 1	Downgradien	3/17/2015	FCPP-57-031715	9.3	440	360	--	5,800	8,500	--	--	240	460	28	1,400
MW-57	Multiunit 1	Downgradien	6/29/2015	MW-57	9.4	410	370	--	5,300	8,800	--	--	230	450	28	1,400
MW-57	Multiunit 1	Downgradien	8/26/2015	FCPP-57-082615	6.4	420	370	--	6,100	9,600	--	--	240	460	35	1,500
MW-57	Multiunit 1	Downgradien	11/10/2015	FC MW-57-(101115)-MSD	4.3	450	--	--	--	9,500	0.0038	0.0044	250	550	34	1,600
MW-57	Multiunit 1	Downgradien	11/10/2015	FC MW-57-(101115)-MS	4.4	480	--	--	--	9,300	0.0046	0.0050	250	590	35	1,600
MW-57	Multiunit 1	Downgradien	11/10/2015	FC MW-57-(101115)	4.4	430	190	--	6,700	9,400	0.0051	0.0059	250	540	31	1,500
MW-57	Multiunit 1	Downgradien	11/11/2015	*DUP* FC FD-4-(101115)	4.2	430	--	--	--	9,200	0.0043	0.0046	250	540	32	1,500
MW-57	Multiunit 1	Downgradien	6/18/2016	FC-Seep-MW57-616	3.5	430	370	--	5,900	9,700	--	--	300	540	34	1,600
MW-57	Multiunit 1	Downgradien	9/15/2016	FC-Seep-MW57-916	8.7	410	330	--	5,700	8,400	--	--	200	430	26	1,300
MW-57	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW57-031919	--	--	--	--	--	--	0.0021	0.011	--	--	--	--
MW-57	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW57-031919	--	--	--	--	--	--	--	--	--	--	--	--
MW-57	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW57-51419	1.8	420	470	--	7,300	12,000	0.0039	0.15	--	--	--	--
MW-57	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW57-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-57	Multiunit 1	Downgradien	11/19/2019	FC-CCR-MW57-111919	1.4	410	410	--	7,100	11,000	0.0024	0.0067	--	--	--	--
MW-57	Multiunit 1	Downgradien	6/22/2020	FC-CCR-MW57-0620	1.3	410	430	6.85	7,500	11,000	0.0020	0.0064	400	700	46	1,900
MW-57	Multiunit 1	Downgradien	11/6/2020	FC-CCR-MW57-1120	1.6	440	540	6.96	8,300	12,000	0.0043	0.027	510	840	47	2,400
MW-57	Multiunit 1	Downgradien	4/27/2021	FC-CCR-MW57-0421	0.96	460	420	7.57	7,400	12,000	0.0019 J	0.006	440	810	52	2,000
MW-57	Multiunit 1	Downgradien	11/17/2021	FC-CCR-MW57-1121	1.1	470	480	6.96	8,400	11,000	0.0035	0.0028	410	860	45	1,900
MW-57	Multiunit 1	Downgradien	2/8/2022	FC-CCR-MW57-0222	1.4	450	560	6.86	8,700	20,000	0.0038	0.012	500	820	47	2,200
MW-57	Multiunit 1	Downgradien	5/24/2022	FC-CCR-MW57-0522	1.0	400	520	6.88	7,500	12,000	0.0029	0.0058	430	730	41	2,000
MW-57	Multiunit 1	Downgradient	5/24/2022	FC-CCR-SS09-0522	1.25	442	484	6.88	8,420	11,800	0.00362	0.00544	393	712	41.8	2,030
MW-57	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW57-0822	1.3	480	510	7.25	8,500	12,000	< 0.0005	0.0015	450	930	43	2,200
MW-60	Multiunit 1	Downgradien	11/8/2015	FC-CCR-MW60-110815	46	430	700	--	7,500	11,000	0.24	0.078	320	710	35	1,400
MW-60	Multiunit 1	Downgradien	11/8/2015	FC-CCR-MW60-110815	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	4/26/2016	FC-CCR-MW-60-042616	51	460	560	--	6,000	11,000	0.16	0.049	--	--	--	--
MW-60	Multiunit 1	Downgradien	6/6/2016	FC-CCR-MW60-616	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	6/6/2016	FC-CCR-MW60-616	49	410	730	--	6,500	11,000	0.14	0.041	--	--	--	--
MW-60	Multiunit 1	Downgradien	8/21/2016	FC-CCR-MW60-816	64	440	430	--	4,900	8,500	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	8/21/2016	FC-CCR-MW60-816	--	--	--	--	--	--	0.29	0.16	--	--	--	--
MW-60	Multiunit 1	Downgradien	8/21/2016	FC-CCR-MW60-816	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	9/13/2016	FC-CCR-MW60-916	64	450	440	--	5,100	8,500	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	9/13/2016	FC-CCR-MW60-916	--	--	--	--	--	--	0.32	0.16	--	--	--	--
MW-60	Multiunit 1	Downgradien	9/13/2016	FC-CCR-MW60-916	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	9/13/2016	FC-CCR-MW100-916	65	440	440	--	5,100	8,400	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	9/13/2016	FC-CCR-MW100-916	--	--	--	--	--	--	0.33	0.17	--	--	--	--
MW-60	Multiunit 1	Downgradien	9/13/2016	FC-CCR-MW100-916	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	10/20/2016	FC-CCR-MW60-1016	61	410	460	--	5,000	8,300	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	10/20/2016	FC-CCR-MW60-1016	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	10/20/2016	FC-CCR-MW60-1016	--	--	--	--	--	--	--	--	--	--	--	--

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-60	Multiunit 1	Downgradien	2/2/2017	FC-CCR-MW60-117	66	450	440	--	5,200	8,200	--	--	120	500	28	1,100
MW-60	Multiunit 1	Downgradien	2/2/2017	FC-CCR-MW60-117	--	--	--	--	--	--	0.29	0.18	--	--	--	--
MW-60	Multiunit 1	Downgradien	2/2/2017	FC-CCR-MW60-117	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	4/18/2017	FC-CCR-MW60-41817	63	440	430	--	5,000	8,400	--	--	130	510	27	1,100
MW-60	Multiunit 1	Downgradien	4/18/2017	FC-CCR-MW60-41817	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	4/18/2017	FC-CCR-MW60-41817	--	--	--	--	--	--	0.28	0.17	--	--	--	--
MW-60	Multiunit 1	Downgradien	5/3/2017	FC-CCR-MW60-5317	--	--	--	--	--	--	0.27	0.17	--	--	--	--
MW-60	Multiunit 1	Downgradien	5/3/2017	FC-CCR-MW60-5317	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	5/30/2017	FC-CCR-MW60-53017	--	--	--	--	--	--	0.28	0.17	--	--	--	--
MW-60	Multiunit 1	Downgradien	5/30/2017	FC-CCR-MW60-53017	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	6/22/2017	FC-CCR-MW60-62217	63	440	450	--	5,400	8,100	--	--	130	510	27	1,100
MW-60	Multiunit 1	Downgradien	6/22/2017	FC-CCR-MW60-62217	--	--	--	--	--	--	0.29	0.17	--	--	--	--
MW-60	Multiunit 1	Downgradien	6/22/2017	FC-CCR-MW60-62217	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	7/22/2017	FC-CCR-MW60-72217	64	450	900	--	10,000	8,300	--	--	130	540	28	1,200
MW-60	Multiunit 1	Downgradien	7/22/2017	FC-CCR-MW60-72217	--	--	--	--	--	--	0.24	0.15	--	--	--	--
MW-60	Multiunit 1	Downgradien	7/22/2017	FC-CCR-MW60-72217	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	8/10/2017	FC-CCR-MW60-81017	66	470	920	--	11,000	8,100	--	--	130	540	28	1,200
MW-60	Multiunit 1	Downgradien	8/10/2017	FC-CCR-MW60-81017	--	--	--	--	--	--	0.28	0.17	--	--	--	--
MW-60	Multiunit 1	Downgradien	8/10/2017	FC-CCR-MW60-81017	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	8/17/2017	FC-CCR-MW60-81717	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	8/17/2017	FC-CCR-MW60-81717	63	490	440	--	5,100	8,200	--	--	130	560	32	1,200
MW-60	Multiunit 1	Downgradien	9/10/2017	FC-CCR-MW60-91017	67	470	450	--	5,200	7,900	--	--	130	520	26	1,100
MW-60	Multiunit 1	Downgradien	9/10/2017	FC-CCR-MW60-91017	--	--	--	--	--	--	0.29	0.16	--	--	--	--
MW-60	Multiunit 1	Downgradien	9/10/2017	FC-CCR-MW60-91017	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	10/12/2017	FC-CCR-MW60-101217	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradien	10/12/2017	FC-CCR-MW60-101217	64	440	480	--	5,100	8,300	0.36	0.15	130	480	26	1,100
MW-60	Multiunit 1	Downgradien	6/21/2020	FC-CCR-MW60-0620	--	--	--	7.44	--	--	0.24	0.18	--	--	--	--
MW-60	Multiunit 1	Downgradien	11/8/2020	FC-CCR-MW60-1120	61	--	--	7.87	--	--	0.26	0.20	--	--	--	--
MW-60	Multiunit 1	Downgradien	4/24/2021	FC-CCR-MW60-0421	60	--	--	8.53	--	--	0.21	0.16	--	--	--	--
MW-60	Multiunit 1	Downgradien	11/13/2021	FC-CCR-MW60	65	--	--	7.68	--	--	0.25	0.19	--	--	--	--
MW-60	Multiunit 1	Downgradien	5/23/2022	FC-CCR-MW60-0522	57	--	--	7.60	--	--	0.20	0.15	--	--	--	--
MW-61	Multiunit 1	Downgradien	11/6/2015	FC-CCR-MW61-110615	35	460	320	--	3,700	5,400	0.011	0.076	64	110	18	1,000
MW-61	Multiunit 1	Downgradien	11/6/2015	FC-CCR-MW61-110615	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	11/6/2015	*DUP* FC-CCR-FD-1-110615	42	490	330	--	3,700	5,000	0.011	0.084	59	110	19	1,100
MW-61	Multiunit 1	Downgradien	11/6/2015	*DUP* FC-CCR-FD-1-110615	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	4/26/2016	FC-CCR-MW-61-042616	39	510	280	--	3,400	5,700	0.010	0.076	--	--	--	--
MW-61	Multiunit 1	Downgradien	6/6/2016	FC-CCR-MW61-616	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	6/6/2016	FC-CCR-MW61-616	38	460	650	--	3,500	5,500	0.012	0.077	--	--	--	--
MW-61	Multiunit 1	Downgradien	8/21/2016	FC-CCR-MW61-816	38	470	300	--	3,400	5,700	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	8/21/2016	FC-CCR-MW61-816	--	--	--	--	--	--	0.013	0.083	--	--	--	--
MW-61	Multiunit 1	Downgradien	8/21/2016	FC-CCR-MW61-816	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	9/13/2016	FC-CCR-MW61-916	40	480	330	--	3,500	5,700	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	9/13/2016	FC-CCR-MW61-916	--	--	--	--	--	--	0.013	0.069	--	--	--	--
MW-61	Multiunit 1	Downgradien	9/13/2016	FC-CCR-MW61-916	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	10/19/2016	FC-CCR-MW101-1016	38	440	310	--	3,700	5,700	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	10/19/2016	FC-CCR-MW101-1016	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	10/20/2016	FC-CCR-MW61-1016	37	420	300	--	3,500	5,600	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	10/20/2016	FC-CCR-MW61-1016	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	2/2/2017	FC-CCR-MW61-117	37	470	300	--	3,500	5,300	--	--	66	120	20	1,000
MW-61	Multiunit 1	Downgradien	2/2/2017	FC-CCR-MW61-117	--	--	--	--	--	--	0.013	0.072	--	--	--	--

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-61	Multiunit 1	Downgradien	2/2/2017	FC-CCR-MW61-117	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	4/18/2017	FC-CCR-MW61-41817	39	480	300	--	3,500	5,600	--	--	77	120	20	1,100
MW-61	Multiunit 1	Downgradien	4/18/2017	FC-CCR-MW61-41817	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	4/18/2017	FC-CCR-MW61-41817	--	--	--	--	--	--	0.014	0.078	--	--	--	--
MW-61	Multiunit 1	Downgradien	5/3/2017	FC-CCR-MW61-5317	--	--	--	--	--	--	0.014	0.075	--	--	--	--
MW-61	Multiunit 1	Downgradien	5/3/2017	FC-CCR-MW61-5317	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	5/30/2017	FC-CCR-MW61-53017	--	--	--	--	--	--	0.015	0.079	--	--	--	--
MW-61	Multiunit 1	Downgradien	5/30/2017	FC-CCR-MW61-53017	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	6/22/2017	FC-CCR-MW61-62217	38	480	310	--	3,700	5,400	--	--	76	120	20	1,100
MW-61	Multiunit 1	Downgradien	6/22/2017	FC-CCR-MW61-62217	--	--	--	--	--	--	0.015	0.079	--	--	--	--
MW-61	Multiunit 1	Downgradien	6/22/2017	FC-CCR-MW61-62217	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	7/22/2017	FC-CCR-MW61-72217	39	490	310	--	3,700	5,600	--	--	88	130	21	1,100
MW-61	Multiunit 1	Downgradien	7/22/2017	FC-CCR-MW61-72217	--	--	--	--	--	--	0.013	0.070	--	--	--	--
MW-61	Multiunit 1	Downgradien	7/22/2017	FC-CCR-MW61-72217	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	8/10/2017	FC-CCR-MW61-81017	40	500	310	--	3,700	5,500	--	--	88	130	21	1,100
MW-61	Multiunit 1	Downgradien	8/10/2017	FC-CCR-MW61-81017	--	--	--	--	--	--	0.015	0.079	--	--	--	--
MW-61	Multiunit 1	Downgradien	8/10/2017	FC-CCR-MW61-81017	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	8/17/2017	FC-CCR-MW61-81717	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	8/17/2017	FC-CCR-MW61-81717	39	520	300	--	3,600	5,500	--	--	89	130	24	1,100
MW-61	Multiunit 1	Downgradien	9/10/2017	FC-CCR-MW61-91017	41	510	310	--	3,600	5,600	--	--	73	120	20	1,000
MW-61	Multiunit 1	Downgradien	9/10/2017	FC-CCR-MW61-91017	--	--	--	--	--	--	0.014	0.073	--	--	--	--
MW-61	Multiunit 1	Downgradien	9/10/2017	FC-CCR-MW61-91017	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	10/12/2017	FC-CCR-MW61-101217	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	10/12/2017	FC-CCR-MW61-101217	38	470	320	--	3,500	5,600	0.016	0.070	76	120	19	1,000
MW-61	Multiunit 1	Downgradien	11/30/2017	FC-CCR-MW61-113017	39	520	310	--	3,500	5,500	--	--	78	120	22	1,100
MW-61	Multiunit 1	Downgradien	3/17/2018	FC-CCR-MW61-31718	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	6/1/2018	FC-CCR-MW-61-6118	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	6/1/2018	FC-CCR-MW-61-6118	38	470	330	--	3,500	5,600	0.017	0.085	91	120	19	980
MW-61	Multiunit 1	Downgradien	6/1/2018	*DUP* FC-CCR-FD01-6118	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	6/1/2018	*DUP* FC-CCR-FD01-6118	39	480	330	--	3,500	5,400	0.017	0.082	89	120	20	980
MW-61	Multiunit 1	Downgradien	11/3/2018	FC-CCR-MW61-11318	37	470	340	--	3,600	5,300	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	11/3/2018	FC-CCR-MW61-11318	--	--	--	--	--	--	0.018	0.090	--	--	--	--
MW-61	Multiunit 1	Downgradien	11/3/2018	FC-CCR-MW61-11318	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW61-031919	--	--	--	--	--	--	0.019	0.092	--	--	--	--
MW-61	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW61-031919	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	5/13/2019	FC-CCR-MW61-51319	39	500	310	--	3,500	5,600	0.019	0.089	--	--	--	--
MW-61	Multiunit 1	Downgradien	5/13/2019	FC-CCR-MW61-51319	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradien	11/19/2019	FC-CCR-MW61-111919	39	500	320	--	3,500	5,200	0.021	0.098	--	--	--	--
MW-61	Multiunit 1	Downgradien	6/21/2020	FC-CCR-MW61-0620	41	540	310	8.21	3,500	5,700	0.021	0.10	--	--	--	--
MW-61	Multiunit 1	Downgradien	11/8/2020	FC-CCR-MW61-1120	41	540	340 J	8.63	3,700	5,100	0.024	0.11	61	140	25	1,100
MW-61	Multiunit 1	Downgradien	4/23/2021	FC-CCR-MW61-0421	40	520	330	9.64	3,600	6,500	0.023	0.10	72	130	23	1,000
MW-61	Multiunit 1	Downgradien	11/13/2021	FC-CCR-MW61-1121	41	520	420	8.45	4,000	4,500	0.028	0.11	59	140	21	1,100
MW-61	Multiunit 1	Downgradien	5/22/2022	FC-CCR-MW61-0522	39	480	340	8.34	3,800	5,300	0.028	0.11	68	140	20	1,100
MW-75	Multiunit 1	Downgradien	4/18/2017	FC-CCR-MW-75-41817	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	4/18/2017	FC-CCR-MW75-41817	24	410	280	--	4,400	6,100	--	--	94	210	21	1,200
MW-75	Multiunit 1	Downgradien	4/18/2017	FC-CCR-MW75-41817	--	--	--	--	--	--	0.043	0.17	--	--	--	--
MW-75	Multiunit 1	Downgradien	5/3/2017	FC-CCR-MW-75-5317	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	5/3/2017	FC-CCR-MW75-5317	--	--	--	--	--	--	0.042	0.17	--	--	--	--
MW-75	Multiunit 1	Downgradien	5/30/2017	FC-CCR-MW-75-53017	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	5/30/2017	FC-CCR-MW75-53017	--	--	--	--	--	--	0.039	0.16	--	--	--	--

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	Boron	Calcium	Chloride	pH (Field Measurement)	Sulfate	Total Dissolved Solids	Cobalt	Molybdenum	Alkalinity Bicarbonate	Magnesium	Potassium	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--
MW-75	Multiunit 1	Downgradien	6/22/2017	FC-CCR-MW75-62217	25	450	300	--	4,300	6,500	--	--	95	240	23	1,300
MW-75	Multiunit 1	Downgradien	6/22/2017	FC-CCR-MW75-62217	--	--	--	--	--	--	0.048	0.18	--	--	--	--
MW-75	Multiunit 1	Downgradien	6/22/2017	FC-CCR-MW-75-62117	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	7/22/2017	FC-CCR-MW75-72217	25	460	300	--	4,500	6,700	--	--	95	240	23	1,300
MW-75	Multiunit 1	Downgradien	7/22/2017	FC-CCR-MW75-72217	--	--	--	--	--	--	0.043	0.16	--	--	--	--
MW-75	Multiunit 1	Downgradien	7/22/2017	FC-CCR-MW75-72217	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	8/10/2017	FC-CCR-MW75-81017	25	460	300	--	5,200	6,600	--	--	94	240	23	1,300
MW-75	Multiunit 1	Downgradien	8/10/2017	FC-CCR-MW75-81017	--	--	--	--	--	--	0.046	0.18	--	--	--	--
MW-75	Multiunit 1	Downgradien	8/10/2017	FC-CCR-MW75-81017	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	8/17/2017	FC-CCR-MW75-81717	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	8/17/2017	FC-CCR-MW75-81717	25	490	300	--	4,600	6,400	--	--	95	240	26	1,300
MW-75	Multiunit 1	Downgradien	9/10/2017	FC-CCR-MW75-91017	24	470	300	--	4,500	6,500	--	--	96	230	22	1,200
MW-75	Multiunit 1	Downgradien	9/10/2017	FC-CCR-MW75-91017	--	--	--	--	--	--	0.044	0.16	--	--	--	--
MW-75	Multiunit 1	Downgradien	9/10/2017	FC-CCR-MW75-91017	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	10/12/2017	FC-CCR-MW75-101217	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	10/12/2017	FC-CCR-MW75-101217	24	430	310	--	4,400	6,600	0.049	0.18	96	220	21	1,200
MW-75	Multiunit 1	Downgradien	11/30/2017	FC-CCR-MW75-113017	26	490	300	--	4,400	6,500	--	--	90	230	24	1,300
MW-75	Multiunit 1	Downgradien	11/30/2017	*DUP* FC-CCR-FD02-113017	25	480	300	--	4,300	6,300	--	--	90	230	24	1,200
MW-75	Multiunit 1	Downgradien	3/17/2018	FC-CCR-MW75-31718	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	6/1/2018	FC-CCR-MW-75-6118	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	6/1/2018	FC-CCR-MW-75-6118	24	430	290	--	4,300	6,400	0.048	0.17	98	210	21	1,100
MW-75	Multiunit 1	Downgradien	11/3/2018	FC-CCR-MW75-11318	24	430	310	--	4,300	6,200	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	11/3/2018	FC-CCR-MW75-11318	--	--	--	--	--	--	0.045	0.18	--	--	--	--
MW-75	Multiunit 1	Downgradien	11/3/2018	FC-CCR-MW75-11318	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW75-031919	--	--	--	--	--	--	0.045	0.17	--	--	--	--
MW-75	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW75-031919	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	5/13/2019	FC-CCR-MW75-51319	25	450	300	--	4,200	6,600	0.045	0.18	--	--	--	--
MW-75	Multiunit 1	Downgradien	5/13/2019	FC-CCR-MW75-51319	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradien	11/19/2019	FC-CCR-MW75-111919	24	450	290	--	4,400	6,600	0.045	0.19	--	--	--	--
MW-75	Multiunit 1	Downgradien	6/21/2020	FC-CCR-MW75-0620	24	470	270	8.16	4,300	6,700	0.047	0.18	--	--	--	--
MW-75	Multiunit 1	Downgradien	11/8/2020	FC-CCR-MW75-1120	25	470	290	8.39	4,800	6,600	0.047	0.19	99	250	27	1,300
MW-75	Multiunit 1	Downgradien	4/23/2021	FC-CCR-MW75-0421	24	460	290	9.34	4,400	6,500	0.045	0.18	100	240	25	1,300
MW-75	Multiunit 1	Downgradien	11/13/2021	FC-CCR-MW75-1121	24	440	360	8.25	5,100	6,200	0.054	0.20	98	240	22	1,300
MW-75	Multiunit 1	Downgradien	5/22/2022	FC-CCR-MW75-0522	24	440	310	8.16	4,400	6,300	0.050	0.17	100	230	23	1,300
MW-76	Multiunit 1	Downgradien	4/26/2021	FC-CCR-MW76-0421	41	470	480	7.61	3,400	6,000	0.015	0.095	270	200	29	1,200
MW-87	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW87-031919	--	--	--	--	--	--	0.032	0.12	--	--	--	--
MW-87	Multiunit 1	Downgradien	3/19/2019	FC-CCR-MW87-031919	--	--	--	--	--	--	--	--	--	--	--	--
MW-87	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW87-51419	1.2	410	2,100	--	17,000	29,000	0.018	0.10	--	--	--	--
MW-87	Multiunit 1	Downgradien	5/14/2019	FC-CCR-MW87-51419	--	--	--	--	--	--	--	--	--	--	--	--
MW-87	Multiunit 1	Downgradien	6/22/2019	FC-NIT-MW87-62219	1.2	410	2,000	--	18,000	28,000	0.018	0.13	830	1,200	83	6,300
MW-87	Multiunit 1	Downgradien	11/19/2019	FC-CCR-MW87-111919	2.4	420	1,600	--	18,000	27,000	0.0037	0.030	--	--	--	--
MW-87	Multiunit 1	Downgradien	11/19/2019	*DUP* FC-CCR-FD02-111919	2.4	440	1,700	--	18,000	26,000	0.0036	0.028	--	--	--	--
MW-87	Multiunit 1	Downgradien	6/23/2020	FC-CCR-MW87-0620	1.4	440	2,200	6.87	19,000	30,000	0.010	0.069	900	1,500	78	7,200
MW-87	Multiunit 1	Downgradien	11/6/2020	FC-CCR-MW87-1120	1.2	480	2,400	7.01	23,000	38,000	0.014	0.051	800	2,000	130	8,300
MW-87	Multiunit 1	Downgradien	4/27/2021	FC-CCR-MW87-0421	1.4	490	2,700	7.92	25,000	34,000	0.0081	0.056	900	2,300	130	9,600
MW-87	Multiunit 1	Downgradien	11/17/2021	FC-CCR-MW87-1121	1.6	520	4,100	7.02	34,000	40,000	0.0078	0.065	1,200	3,500	130	14,000
MW-87	Multiunit 1	Downgradien	11/17/2021	FC-CCR-FD04-1121	1.6	520	4,100	7.02	34,000	40,000	0.0082	0.067	1,100	3,500	130	13,000
MW-87	Multiunit 1	Downgradien	2/8/2022	FC-CCR-MW87-0222	1.5	490	3,000	6.97	31,000	190,000	0.0036	0.037	1,200	3,000	100	13,000
MW-87	Multiunit 1	Downgradien	5/24/2022	FC-CCR-MW87-0522	1.5	450	3,300	7.00	31,000	36,000	0.0077	0.053	1,200	2,900	110	11,000
MW-87	Multiunit 1	Downgradien	5/24/2022	*DUP* FC-CCR-FD04-0522	1.5	470	3,200	7.00	31,000	30,000	0.0077	0.055	1,200	3,000	110	11,000
MW-87	Multiunit 1	Downgradient	5/24/2022	FC-CCR-SS07-0522	2.5 J	472	3,040	7.00	31,900	50,100	0.00856 J	0.0548	1,160	2,680	101	10,900
MW-87	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW87-0822	1.4 J	480	3,600	7.00	36,000	54,000	0.0069	0.052	1,300	3,300	83	11,000
MW-87	Multiunit 1	Downgradient	8/11/2022	*DUP* FC-CCR-FD01-0822	1.4	480	3,500	7.00	35,000	56,000	0.0065	0.056	1,300	3,200	83	12,000

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents						Appendix IV Constituents		Additional Analyses			
				Constituent:	**Boron**	**Calcium**	**Chloride**	**pH (Field Measurement)**	**Sulfate**	**Total Dissolved Solids**	**Cobalt**	**Molybdenum**	**Alkalinity Bicarbonate**	**Magnesium**	**Potassium**	**Sodium**
				Filtered:	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
				Units:	**mg/L**	**mg/L**	**mg/L**	**su**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
				Multiunit 1 BTV	*3.95*	*454.1*	*604.7*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.12*	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	*0.01*	*0.1*	--	--	--	--

Notes:

BTV exceedances are shown in grey shaded cells. GWPS exceedence are shown in red text.

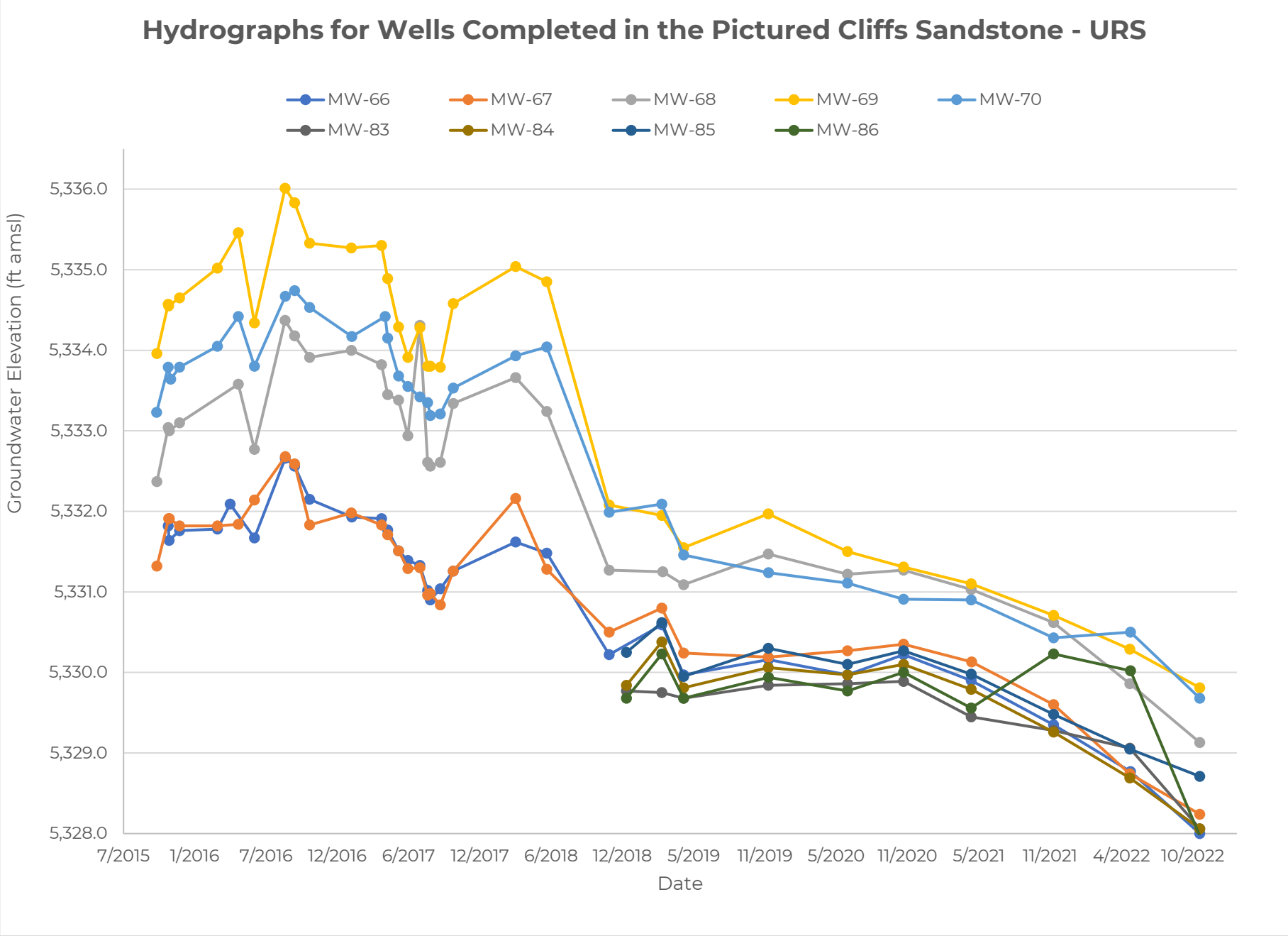
Abbreviations and Data Qualifiers:

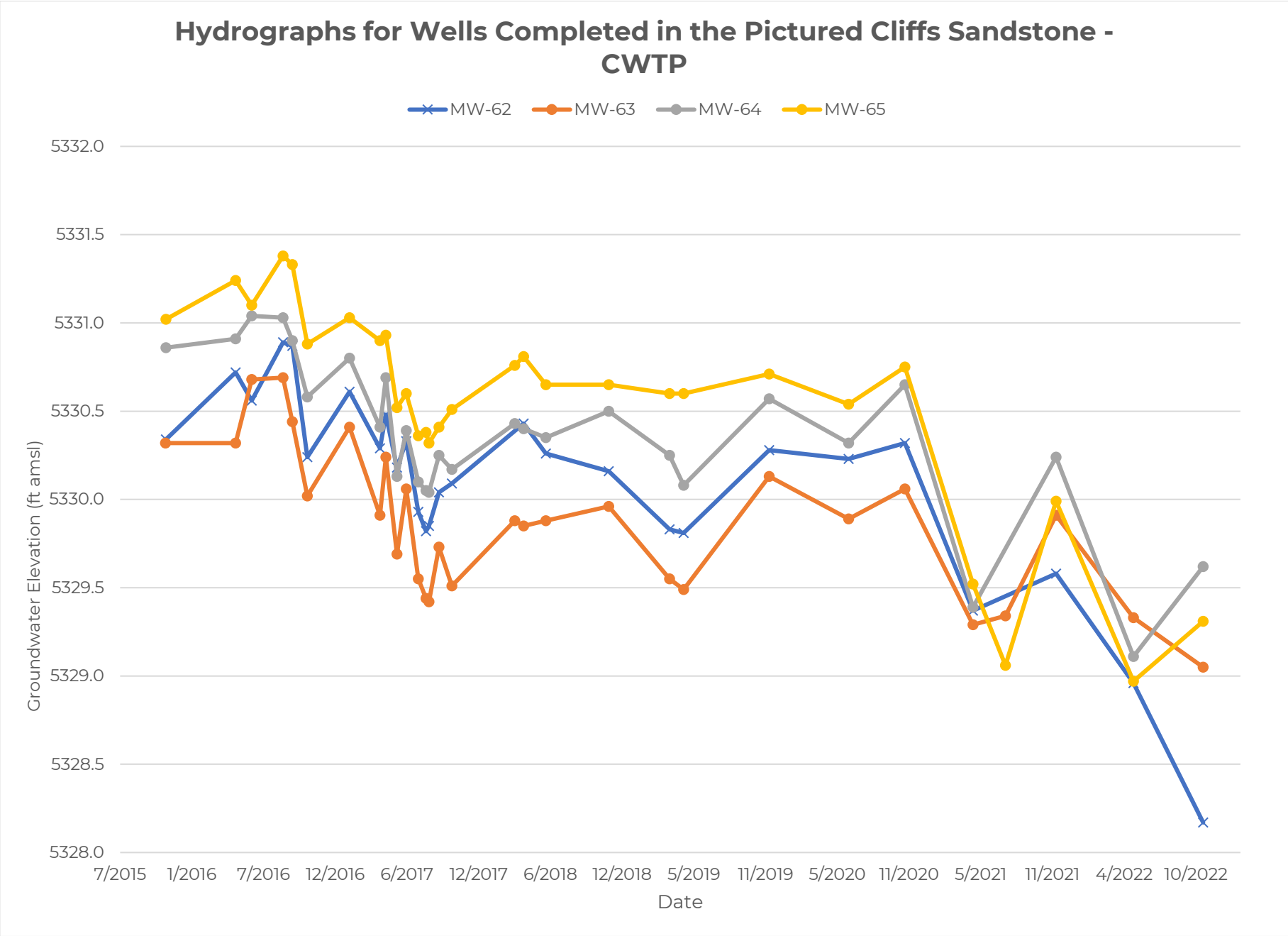
* data appears anomalous
< = less than
BTV = Background Threshold Value
degrees C = degrees Celsius
GWPS = Groundwater Protection Standard
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
mg/L = milligrams per liter
pCi/L = Picocuries per liter
su = standard units
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

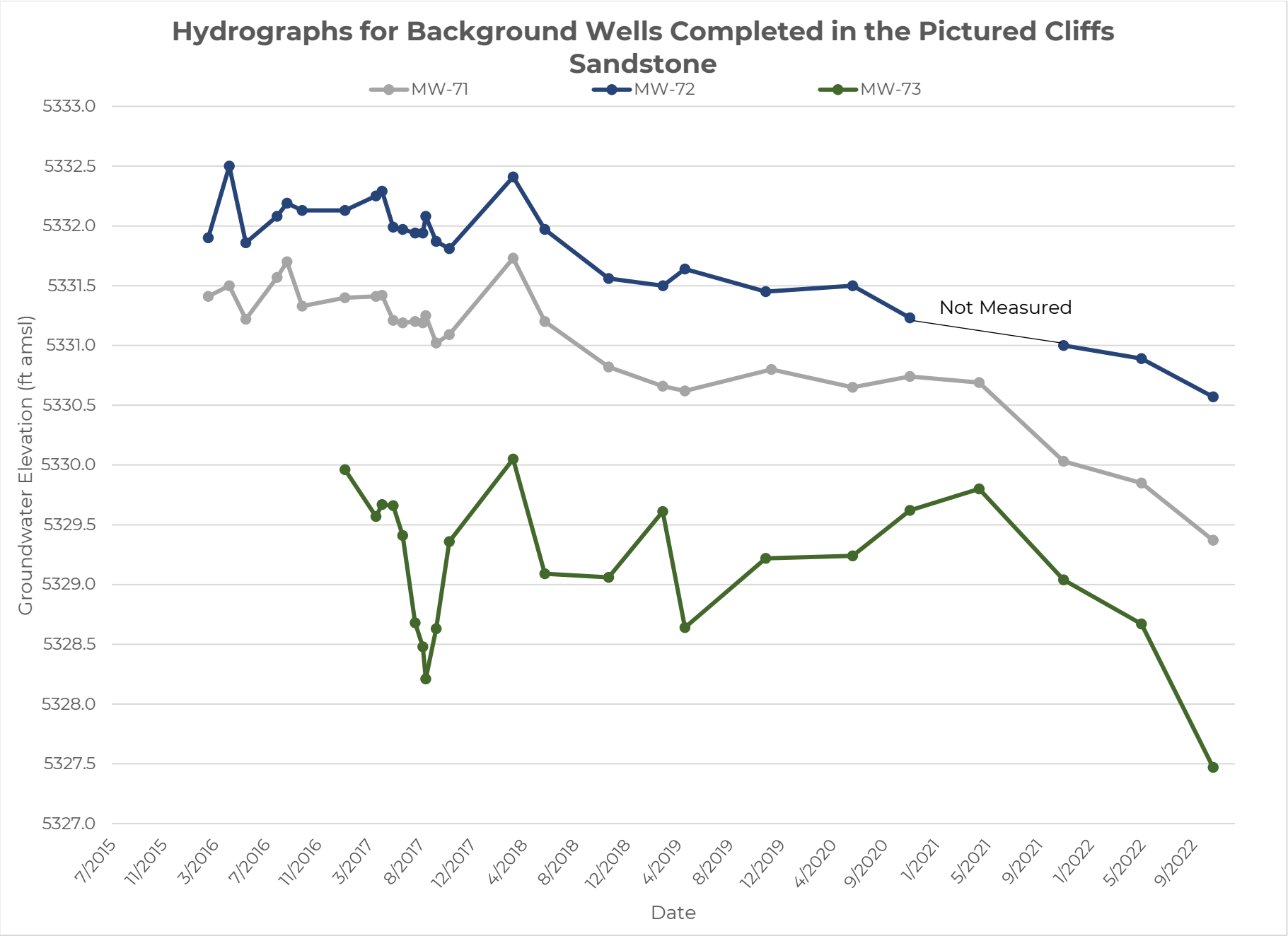
APPENDIX

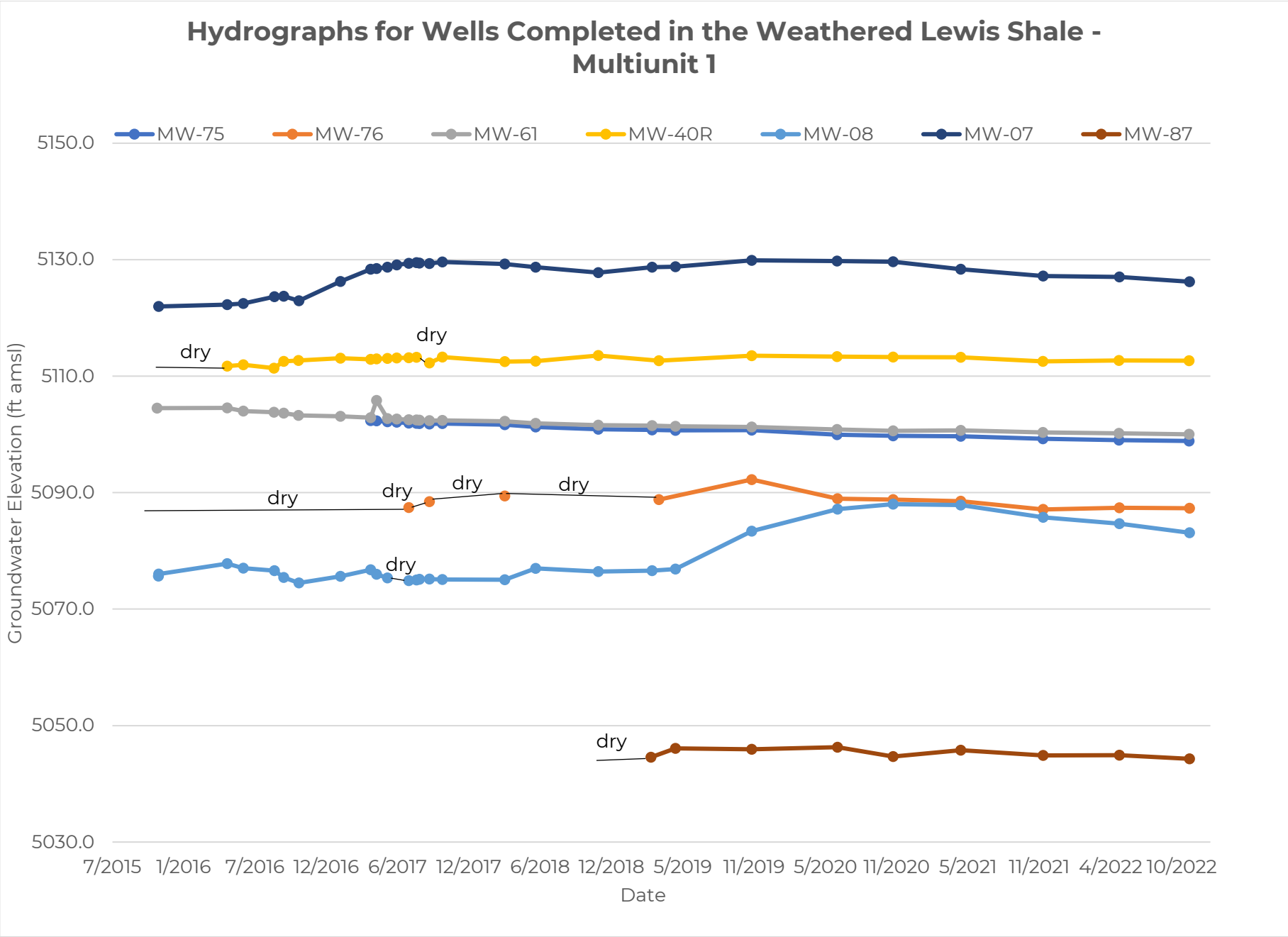
G

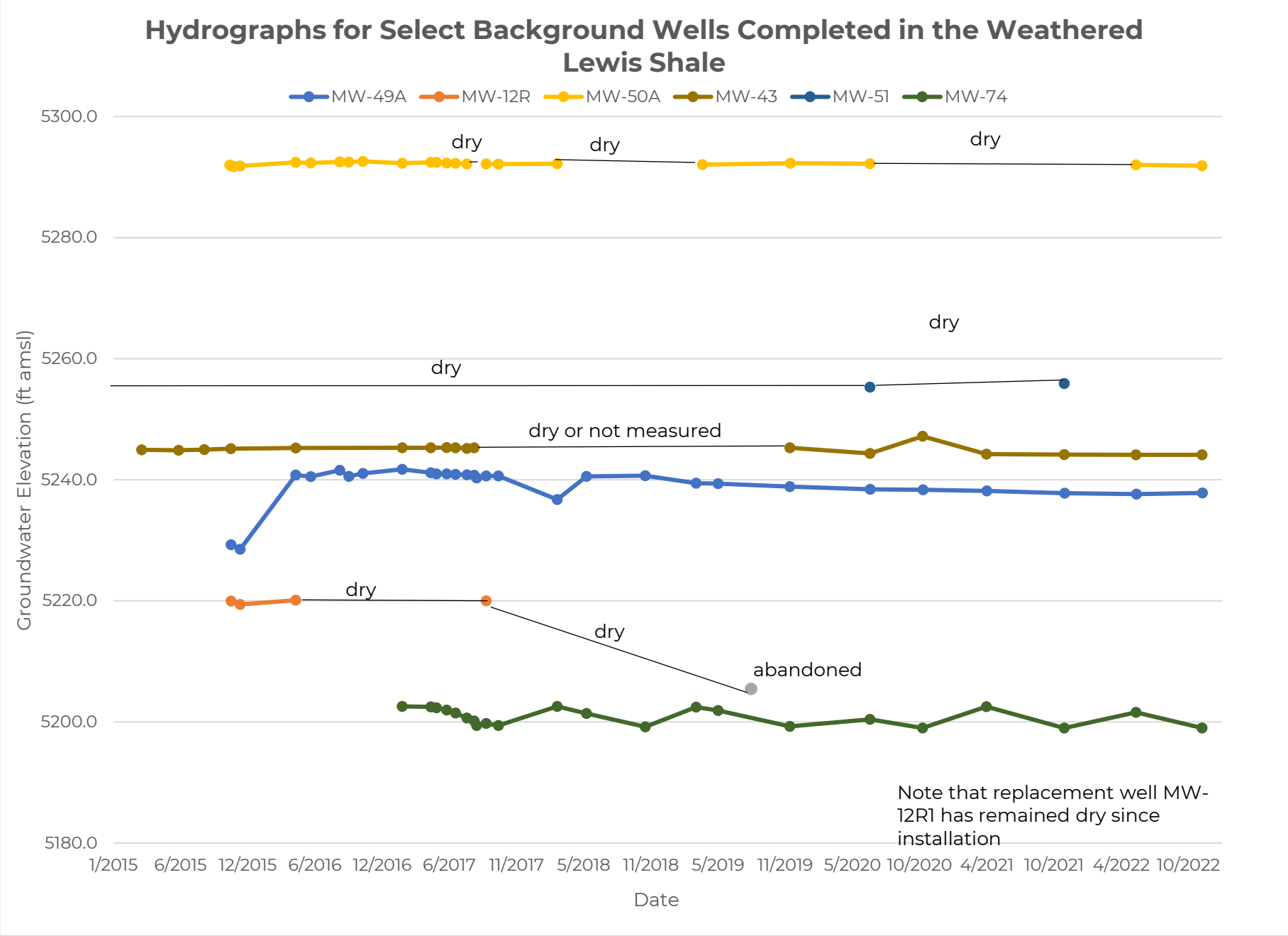
GROUNDWATER ELEVATION DATA AND HYDROGRAPHS THROUGH 2022


Hydrographs for Wells Completed in the Pictured Cliffs Sandstone - URS
MW-66
MW-67
MW-68
MW-69
MW-70
MW-83
MW-84
MW-85
MW-86
Groundwater Elevation (ft amsl)
5,336.0
5,335.0
5,334.0
5,333.0
5,332.0
5,331.0
5,330.0
5,329.0
5,328.0
7/2015
1/2016
7/2016
12/2016
6/2017
12/2017
6/2018
12/2018
5/2019
11/2019
5/2020
11/2020
5/2021
11/2021
4/2022
10/2022
Date


Hydrographs for Wells Completed in the Pictured Cliffs Sandstone - CWTP
MW-62
MW-63
MW-64
MW-65
5332.0
5331.5
5331.0
5330.5
5330.0
5329.5
5329.0
5328.5
5328.0
Groundwater Elevation (ft amsl)
7/2015
1/2016
7/2016
12/2016
6/2017
12/2017
6/2018
12/2018
5/2019
11/2019
5/2020
11/2020
5/2021
11/2021
4/2022
10/2022
Date


Hydrographs for Background Wells Completed in the Pictured Cliffs Sandstone
MW-71
MW-72
MW-73
Not Measured
Groundwater Elevation (ft amsl)
5333.0
5332.5
5332.0
5331.5
5331.0
5330.5
5330.0
5329.5
5329.0
5328.5
5328.0
5327.5
5327.0
7/2015
11/2015
3/2016
7/2016
11/2016
3/2017
8/2017
12/2017
4/2018
8/2018
12/2018
4/2019
8/2019
12/2019
4/2020
9/2020
1/2021
5/2021
9/2021
1/2022
5/2022
9/2022
Date


Hydrographs for Wells Completed in the Weathered Lewis Shale - Multiunit 1
MW-75
MW-76
MW-61
MW-40R
MW-08
MW-07
MW-87
5150.0
5130.0
5110.0
5090.0
5070.0
5050.0
5030.0
Groundwater Elevation (ft amsl)
dry
dry
dry
dry
dry
dry
dry
dry
7/2015
1/2016
7/2016
12/2016
6/2017
12/2017
6/2018
12/2018
5/2019
11/2019
5/2020
11/2020
5/2021
11/2021
4/2022
10/2022
Date


Hydrographs for Select Background Wells Completed in the Weathered Lewis Shale
MW-49A
MW-12R
MW-50A
MW-43
MW-51
MW-74
5300.0
5280.0
5260.0
5240.0
5220.0
5200.0
5180.0
Groundwater Elevation (ft amsl)
dry
dry
dry
dry
dry
dry or not measured
dry
dry
abandoned
Note that replacement well MW-12R1 has remained dry since installation
1/2015
6/2015
12/2015
6/2016
12/2016
6/2017
11/2017
5/2018
11/2018
5/2019
11/2019
5/2020
10/2020
4/2021
10/2021
4/2022
10/2022
Date

MW-07			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/7/2015	5149.32	27.35	5121.97
4/25/2016	5149.32	27.04	5122.28
6/4/2016	5149.32	26.85	5122.47
8/20/2016	5149.32	25.68	5123.64
9/12/2016	5149.32	25.61	5123.71
10/20/2016	5149.32	26.36	5122.96
1/31/2017	5149.32	23.08	5126.24
4/16/2017	5149.32	20.95	5128.37
5/1/2017	5149.32	20.83	5128.49
5/28/2017	5149.32	20.59	5128.73
6/20/2017	5149.32	20.21	5129.11
7/20/2017	5149.32	19.93	5129.39
8/8/2017	5149.32	19.83	5129.49
8/15/2017	5149.32	19.91	5129.41
9/9/2017	5149.32	19.97	5129.35
10/11/2017	5149.32	19.72	5129.6
3/15/2018	5149.32	20.07	5129.25
5/31/2018	5149.32	20.62	5128.7
11/2/2018	5149.32	21.55	5127.77
3/16/2019	5149.32	20.59	5128.73
5/13/2019	5149.32	20.54	5128.78
11/18/2019	5149.32	19.43	5129.89
6/17/2020	5149.32	19.54	5129.78
11/3/2020	5149.32	19.68	5129.64
4/20/2021	5149.32	20.97	5128.35
11/11/2021	5149.32	22.14	5127.18
5/19/2022	5149.32	22.3	5127.02
11/9/2022	5149.32	23.09	5126.23
	Maximum Observed:	*5129.89*	*ft AMSL*
	Minimum Observed:	*5121.97*	*ft AMSL*
	Range:	*7.92*	*ft*

MW-08			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/6/2015	5122.56	46.9	5075.66
11/7/2015	5122.56	46.56	5076.00
4/25/2016	5122.56	44.76	5077.80
6/4/2016	5122.56	45.52	5077.04
8/20/2016	5122.56	45.95	5076.61
9/12/2016	5122.56	47.11	5075.45
10/20/2016	5122.56	48.07	5074.49
1/31/2017	5122.56	46.94	5075.62
4/16/2017	5122.56	45.82	5076.74
5/1/2017	5122.56	46.59	5075.97
5/28/2017	5122.56	47.19	5075.37
6/20/2017	5122.56	Dry	
7/20/2017	5122.56	47.68	5074.88
8/8/2017	5122.56	47.57	5074.99
8/15/2017	5122.56	47.44	5075.12
9/9/2017	5122.56	47.39	5075.17
10/11/2017	5122.56	47.49	5075.07
3/15/2018	5122.56	47.51	5075.05
5/31/2018	5122.56	45.56	5077.00
11/2/2018	5122.56	46.12	5076.44
3/16/2019	5122.56	45.96	5076.60
5/13/2019	5122.56	45.68	5076.88
11/18/2019	5122.56	39.18	5083.38
6/18/2020	5122.56	35.38	5087.18
11/3/2020	5122.56	34.54	5088.02
4/20/2021	5122.56	34.7	5087.86
11/11/2021	5122.56	36.8	5085.76
5/19/2022	5122.56	37.9	5084.66
11/9/2022	5122.56	39.43	5083.13
	Maximum Observed:	*5088.02*	*ft AMSL*
	Minimum Observed:	*5074.49*	*ft AMSL*
	Range:	*13.53*	*ft*

MW-10			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/29/2017	5150.71	Dry	Dry
3/15/2018	5150.71	Dry	Dry
5/31/2018	5151.71	Dry	Dry
11/21/2018	5151.71	Dry	Dry
11/18/2019	5151.71	Dry	Dry
6/17/2020	5150.71	Dry	Dry
11/3/2020	5150.71	Dry	Dry
4/20/2021	5150.71	Dry	Dry
11/11/2021	5150.71	33.70	Dry
5/19/2022	5150.71	33.71	Dry
11/9/2022	5150.71	33.68	5117.03
Maximum Observed:		*0.00*	*ft AMSL*
Minimum Observed:		*0.00*	*ft AMSL*
Range:		*0.00*	*ft*

MW-11			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
06/17/2020	5111.96	31.99	5079.97
11/3/2020	5111.96	31.85	5080.11
4/20/2021	5111.96	31.86	5080.1
11/11/2021	5111.96	31.85	5080.11
5/19/2022	5111.96	31.88	5080.08
11/9/2022	5111.96	31.89	5080.07
	Maximum Observed:	*5080.11*	*ft AMSL*
	Minimum Observed:	*5079.97*	*ft AMSL*
	Range:	*0.14*	*ft*

MW-12R			
Date of Measurement	**Measuring Pt Elevation**	**Water Level**	**GW Elevation**
11/7/2015	5264.70	44.75	5219.95
12/1/2015	5264.70	45.29	5219.41
4/25/2016	5264.70	44.6	5220.10
6/4/2016	5264.70	Dry	
8/20/2016	5264.70	Dry	
9/12/2016	5264.70	Dry	
10/19/2016	5264.70	Dry	
1/31/2017	5264.70	Dry	
4/16/2017	5264.70	Dry	
5/1/2017	5264.70	Dry	
5/28/2017	5264.70	Dry	
6/20/2017	5264.70	Dry	
7/20/2017	5264.70	Dry	
8/8/2017	5264.70	Dry	
8/15/2017	5264.70	Dry	
9/9/2017	5264.70	44.68	5220.02
10/11/2017	5264.70	Dry	
3/15/2018	5264.70	Dry	
ABANDONED ON 4/9/2018			

Maximum Observed:	*5220.10*	*ft AMSL*
Minimum Observed:	*5219.41*	*ft AMSL*
Range:	*0.69*	*ft*

MW-12R1			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
06/17/2020	5264.44	Dry	Dry
11/3/2020	5264.44	Dry	Dry
4/20/2021	5264.44	Dry	Dry
11/11/2021	5264.44	Dry	Dry
5/19/2022	5264.44	Dry	Dry
11/9/2022	5264.44	Dry	Dry
Maximum Observed:		--	*ft AMSL*
Minimum Observed:		--	*ft AMSL*
Range:		--	*ft*

MW-13			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/29/2017	5150.75	Dry	Dry
3/15/2018	5150.75	Dry	Dry
5/31/2018	5150.75	Dry	Dry
11/21/2018	5150.75	Dry	Dry
11/18/2019	5150.75	Dry	Dry
6/17/2020	5155.75	Dry	Dry
11/3/2020	5155.75	Dry	Dry
4/20/2021	5155.75	Dry	Dry
11/11/2021	5155.75	Dry	Dry
5/19/2022	5155.75	Dry	Dry
11/9/2022	5155.75	Dry	Dry
Maximum Observed:		*0.00*	*ft AMSL*
Minimum Observed:		*0.00*	*ft AMSL*
Range:		*0.00*	*ft*

MW-40R			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/7/2015	5137.43	Dry	
4/25/2016	5137.43	25.70	5111.73
6/4/2016	5137.43	25.46	5111.97
8/19/2016	5137.43	26.05	5111.38
9/12/2016	5137.43	24.90	5112.53
10/19/2016	5137.43	24.72	5112.71
1/31/2017	5137.43	24.34	5113.09
4/16/2017	5137.43	24.56	5112.87
5/1/2017	5137.43	24.47	5112.96
5/28/2017	5137.43	24.38	5113.05
6/20/2017	5137.43	24.29	5113.14
7/20/2017	5137.43	24.26	5113.17
8/8/2017	5137.43	24.19	5113.24
8/15/2017	5137.43	Dry	
9/9/2017	5137.43	25.18	5112.25
10/11/2017	5137.43	24.14	5113.29
3/15/2018	5137.43	24.92	5112.51
5/31/2018	5137.43	24.86	5112.57
11/2/2018	5137.43	23.89	5113.54
4/2/2019	5137.43	24.78	5112.65
11/18/2019	5137.43	23.91	5113.52
6/17/2020	5137.43	24.06	5113.37
11/3/2020	5137.43	24.15	5113.28
4/20/2021	5137.43	24.18	5113.25
11/10/2021	5137.43	24.91	5112.52
5/18/2022	5137.43	24.72	5112.71
11/8/2022	5137.43	24.76	5112.67
Maximum Observed:		*5113.54*	*ft AMSL*
Minimum Observed:		*5111.38*	*ft AMSL*
Range:		*2.16*	*ft*

MW-43			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
3/16/2015	5272.46	27.50	5244.96
6/22/2015	5272.46	27.59	5244.87
8/28/2015	5272.46	27.46	5245
11/6/2015	5272.46	27.32	5245.14
4/25/2016	5272.46	27.20	5245.26
1/31/2017	5272.46	27.19	5245.27
4/16/2017	5272.46	27.18	5245.28
5/28/2017	5272.46	27.15	5245.31
6/20/2017	5272.46	27.18	5245.28
7/20/2017	5272.46	27.29	5245.17
8/8/2017	5272.46	27.18	5245.28
8/15/2017	5272.46	Dry	
11/18/2019	5272.46	27.18	5245.28
6/16/2020	5271.58	27.25	5244.33
11/2/2020	5271.58	24.4	5247.18
4/19/2021	5271.58	27.36	5244.22
11/10/2021	5271.58	27.43	5244.15
5/18/2022	5271.58	27.46	5244.12
11/8/2022	5271.58	27.45	5244.13
	Maximum Observed:	*5247.18*	*ft AMSL*
	Minimum Observed:	*5244.12*	*ft AMSL*
	Range:	*3.06*	*ft*

Note: Probable error in 11/2/2020 water level measurement.

MW-44			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/29/2017	5146.89	Dry	Dry
3/15/2018	5146.89	Dry	Dry
5/31/2018	5146.89	Dry	Dry
11/21/2018	5146.89	Dry	Dry
11/18/2019	5146.89	25.5	5121.39
6/17/2020	5146.89	Dry	Dry
11/3/2020	5146.89	Dry	Dry
4/20/2021	5146.89	Dry	Dry
11/11/2021	5146.89	Dry	Dry
5/19/2022	5146.89	24.42	5122.47
11/9/2022	5146.89	25.78	Dry
	Maximum Observed:	*5122.47*	*ft AMSL*
	Minimum Observed:	*5121.39*	*ft AMSL*
	Range:	*1.08*	*ft*

Note: Water levels are field-noted to be measurements of saturated sediment or likely condensate accumulation in well.

MW-48			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/29/2017	5165.96	Dry	Dry
3/15/2018	5165.96	Dry	Dry
5/31/2018	5165.96	Dry	Dry
11/21/2018	5165.96	Dry	Dry
11/18/2019	5165.96	Dry	Dry
6/17/2020	5165.96	Dry	Dry
11/3/2020	5165.96	Dry	Dry
4/20/2021	5165.96	Dry	Dry
11/11/2021	5165.96	Dry	Dry
5/19/2022	5165.96	Dry	Dry
11/9/2022	5165.96	Dry	Dry
	Maximum Observed:	*0.00*	*ft AMSL*
	Minimum Observed:	*0.00*	*ft AMSL*
	Range:	*0.00*	*ft*

MW-49A			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/7/2015	5285.96	56.71	5229.25
12/1/2015	5285.96	57.45	5228.51
4/25/2016	5285.96	45.17	5240.79
6/4/2016	5285.96	45.44	5240.52
8/19/2016	5285.96	44.38	5241.58
9/12/2016	5285.96	45.40	5240.56
10/19/2016	5285.96	44.90	5241.06
1/31/2017	5285.96	44.23	5241.73
4/16/2017	5285.96	44.82	5241.14
5/1/2017	5285.96	44.98	5240.98
5/28/2017	5285.96	44.98	5240.98
6/20/2017	5285.96	45.06	5240.90
7/20/2017	5285.96	45.13	5240.83
8/8/2017	5285.96	45.22	5240.74
8/15/2017	5285.96	45.68	5240.28
9/9/2017	5285.96	45.32	5240.64
10/11/2017	5285.96	45.34	5240.62
3/15/2018	5285.96	49.23	5236.73
5/31/2018	5285.96	45.42	5240.54
11/2/2018	5285.96	45.29	5240.67
3/16/2019	5288.62	49.20	5239.42
5/13/2019	5288.62	49.28	5239.34
11/18/2019	5288.62	49.74	5238.88
6/17/2020	5288.62	50.21	5238.41
11/3/2020	5288.62	50.28	5238.34
4/20/2021	5288.62	50.46	5238.16
11/11/2021	5288.62	50.82	5237.80
5/19/2022	5288.62	50.99	5237.63
11/9/2022	5288.62	50.79	5237.83
	Maximum Observed:	*5241.73*	*ft AMSL*
	Minimum Observed:	*5228.51*	*ft AMSL*
	Range:	*13.22*	*ft*

MW-50A			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/3/2015	5335.67	43.69	5291.98
11/8/2015	5335.67	43.84	5291.83
11/14/2015	5335.67	43.95	5291.72
12/1/2015	5335.67	43.85	5291.82
4/25/2016	5335.67	43.23	5292.44
6/4/2016	5335.67	43.36	5292.31
8/19/2016	5335.67	43.16	5292.51
9/12/2016	5335.67	43.18	5292.49
10/19/2016	5335.67	43.07	5292.6
1/31/2017	5335.67	43.38	5292.29
4/16/2017	5335.67	43.25	5292.42
5/1/2017	5335.67	43.24	5292.43
5/28/2017	5335.67	43.33	5292.34
6/20/2017	5335.67	43.39	5292.28
7/20/2017	5335.67	43.49	5292.18
8/8/2017	5335.67	Dry	
8/15/2017	5335.67	Dry	
9/9/2017	5335.67	43.51	5292.16
10/11/2017	5335.67	43.52	5292.15
3/15/2018	5335.67	43.46	5292.21
5/31/2018	5335.67	Dry	
11/2/2018	5335.67	Dry	
4/2/2019	5335.67	43.62	5292.05
11/19/2019	5335.67	43.39	5292.28
6/16/2020	5335.67	43.47	5292.2
11/3/2020	5335.67	Dry	
4/19/2021	5335.67	Dry	
11/11/2021	5335.67	Dry	
5/18/2022	5335.67	43.63	5292.04
11/8/2022	5335.67	43.78	5291.89
	Maximum Observed:	*5292.60*	*ft AMSL*
	Minimum Observed:	*5291.72*	*ft AMSL*
	Range:	*0.88*	*ft*

MW-51			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/3/2015	5287.515	Dry	
12/1/2015	5287.515	Dry	
4/25/2016	5287.515	Dry	
6/4/2016	5287.515	Dry	
8/20/2016	5287.515	Dry	
9/12/2016	5287.515	Dry	
1/31/2017	5287.515	Dry	
4/16/2017	5287.515	Dry	
5/28/2017	5287.515	Dry	
6/20/2017	5287.515	Dry	
7/20/2017	5287.515	Dry	
8/8/2017	5287.515	Dry	
8/15/2017	5287.515	Dry	
12/2/2019	5287.515	Dry	
6/16/2020	5287.52	32.23	5255.29
11/2/2020	5287.52	Dry	
4/19/2021	5287.52	32.24	
11/10/2021	5287.52	32.25	5255.89
5/18/2022	5287.52	Dry	
11/8/2022	5287.52	Dry	
	Maximum Observed:	*5255.89*	*ft AMSL*
	Minimum Observed:	*5255.29*	*ft AMSL*
	Range:	*0.60*	*ft*

MW-55R			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
6/17/2020	5243.96	Dry	Dry
11/3/2020	5243.96	Dry	Dry
4/20/2021	5243.96	95.92	5148.04
11/11/2021	5243.96	95.94	5148.02
5/19/2022	5243.96	95.95	Dry
11/9/2022	5243.96	95.94	Dry
	Maximum Observed:	*5148.04*	*ft AMSL*
	Minimum Observed:	*5148.02*	*ft AMSL*
	Range:	*0.02*	*ft*

Note: Water levels are field-noted to be measurements of saturated sediment or likely condensate accumulation in well.

MW-60 (Supplementary)			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/7/2015	5144.10	14.41	5129.69
4/25/2016	5144.10	15.45	5128.65
6/4/2016	5144.10	13.66	5130.44
8/19/2016	5144.10	13.66	5130.44
9/12/2016	5144.10	14.02	5130.08
10/19/2016	5144.10	14.28	5129.82
1/31/2017	5144.10	14.03	5130.07
4/16/2017	5144.10	13.96	5130.14
5/1/2017	5144.10	14.43	5129.67
5/28/2017	5144.10	14.30	5129.80
6/20/2017	5144.10	14.45	5129.65
7/20/2017	5144.10	14.47	5129.63
8/8/2017	5144.10	14.69	5129.41
8/15/2017	5144.10	15.33	5128.77
9/9/2017	5144.10	14.76	5129.34
10/11/2017	5144.10	14.47	5129.63
3/15/2018	5144.10	13.98	5130.12
5/31/2018	5144.10	14.08	5130.02
11/2/2018	5144.10	14.26	5129.84
12/4/2019	5144.10	14.35	5129.75
6/17/2020	5144.10	14.41	5129.69
11/3/2020	5144.10	14.68	5129.42
4/20/2021	5144.10	14.57	5129.53
11/10/2021	5144.10	15.26	5128.84
5/18/2022	5144.10	15.81	5128.29
11/8/2022	5144.10	15.94	5128.16
	Maximum Observed:	*5130.44*	*ft AMSL*
	Minimum Observed:	*5128.16*	*ft AMSL*
	Range:	*2.28*	*ft*

MW-61			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/3/2015	5129.19	24.70	5104.49
4/25/2016	5129.19	24.64	5104.55
6/4/2016	5129.19	25.18	5104.01
8/19/2016	5129.19	25.38	5103.81
9/12/2016	5129.19	25.55	5103.64
10/19/2016	5129.19	25.94	5103.25
1/31/2017	5129.19	26.10	5103.09
4/16/2017	5129.19	26.32	5102.87
5/1/2017	5129.19	23.36	5105.83
5/28/2017	5129.19	26.48	5102.71
6/20/2017	5129.19	26.56	5102.63
7/20/2017	5129.19	26.67	5102.52
8/8/2017	5129.19	26.69	5102.50
8/15/2017	5129.19	26.75	5102.44
9/9/2017	5129.19	26.81	5102.38
10/11/2017	5129.19	26.79	5102.40
3/15/2018	5129.19	26.93	5102.26
5/31/2018	5129.19	27.31	5101.88
11/2/2018	5129.19	27.61	5101.58
3/16/2019	5129.19	27.70	5101.49
5/13/2019	5129.19	27.78	5101.41
11/18/2019	5129.19	27.92	5101.27
6/17/2020	5129.19	28.35	5100.84
11/3/2020	5129.19	28.56	5100.63
4/20/2021	5129.19	28.51	5100.68
11/10/2021	5129.19	28.87	5100.32
5/18/2022	5129.19	29.01	5100.18
11/8/2022	5129.19	29.18	5100.01
	Maximum Observed:	*5105.83*	*ft AMSL*
	Minimum Observed:	*5100.01*	*ft AMSL*
	Range:	*5.82*	*ft*

MW-62			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/5/2015	5341.87	11.53	5330.34
4/25/2016	5341.87	11.15	5330.72
6/4/2016	5341.87	11.31	5330.56
8/20/2016	5341.87	10.98	5330.89
9/12/2016	5341.87	11.00	5330.87
10/19/2016	5341.87	11.63	5330.24
1/31/2017	5341.87	11.26	5330.61
4/16/2017	5341.87	11.58	5330.29
5/1/2017	5341.87	11.39	5330.48
5/28/2017	5341.87	11.69	5330.18
6/20/2017	5341.87	11.54	5330.33
7/20/2017	5341.87	11.94	5329.93
8/8/2017	5341.87	12.05	5329.82
8/15/2017	5341.87	12.02	5329.85
9/9/2017	5341.87	11.83	5330.04
10/11/2017	5341.87	11.78	5330.09
4/6/2018	5341.87	11.44	5330.43
5/31/2018	5341.87	11.61	5330.26
11/2/2018	5341.87	11.71	5330.16
4/1/2019	5341.87	12.04	5329.83
5/6/2019	5341.87	12.06	5329.81
12/3/2019	5341.87	11.59	5330.28
6/16/2020	5341.87	11.64	5330.23
11/2/2020	5341.87	11.55	5330.32
4/19/2021	5341.87	12.50	5329.37
11/10/2021	5341.87	12.29	5329.58
5/20/2022	5341.87	12.91	5328.96
11/8/2022	5341.87	13.7	5328.17
	Maximum Observed:	*5330.89*	*ft AMSL*
	Minimum Observed:	*5328.17*	*ft AMSL*
	Range:	*2.72*	*ft*

MW-63			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/4/2015	5337.02	6.70	5330.32
4/25/2016	5337.02	6.70	5330.32
6/4/2016	5337.02	6.34	5330.68
8/20/2016	5337.02	6.33	5330.69
9/12/2016	5337.02	6.58	5330.44
10/19/2016	5337.02	7.00	5330.02
1/31/2017	5337.02	6.61	5330.41
4/16/2017	5337.02	7.11	5329.91
5/1/2017	5337.02	6.78	5330.24
5/28/2017	5337.02	7.33	5329.69
6/20/2017	5337.02	6.96	5330.06
7/20/2017	5337.02	7.47	5329.55
8/8/2017	5337.02	7.58	5329.44
8/15/2017	5337.02	7.60	5329.42
9/9/2017	5337.02	7.29	5329.73
10/11/2017	5337.02	7.51	5329.51
3/15/2018	5337.02	7.14	5329.88
4/6/2018	5337.02	7.17	5329.85
5/31/2018	5337.02	7.14	5329.88
11/2/2018	5337.02	7.06	5329.96
4/1/2019	5337.02	7.47	5329.55
5/6/2019	5337.02	7.53	5329.49
12/3/2019	5337.02	6.89	5330.13
6/16/2020	5337.02	7.13	5329.89
11/2/2020	5337.02	6.96	5330.06
4/19/2021	5337.02	7.73	5329.29
7/8/2021	5337.02	7.68	5329.34
11/10/2021	5337.02	7.11	5329.91
5/20/2022	5337.02	7.69	5329.33
11/8/2022	5337.02	7.97	5329.05
	Maximum Observed:	*5330.69*	*ft AMSL*
	Minimum Observed:	*5329.05*	*ft AMSL*
	Range:	*1.64*	*ft*

MW-64			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/5/2015	5337.66	6.80	5330.86
4/25/2016	5337.66	6.75	5330.91
6/4/2016	5337.66	6.62	5331.04
8/20/2016	5337.66	6.63	5331.03
9/12/2016	5337.66	6.76	5330.90
10/19/2016	5337.66	7.08	5330.58
1/31/2017	5337.66	6.86	5330.80
4/16/2017	5337.66	7.25	5330.41
5/1/2017	5337.66	6.97	5330.69
5/28/2017	5337.66	7.53	5330.13
6/20/2017	5337.66	7.27	5330.39
7/20/2017	5337.66	7.56	5330.10
8/8/2017	5337.66	7.61	5330.05
8/15/2017	5337.66	7.62	5330.04
9/9/2017	5337.66	7.41	5330.25
10/11/2017	5337.66	7.49	5330.17
3/15/2018	5337.66	7.23	5330.43
4/6/2018	5337.66	7.26	5330.40
5/31/2018	5337.66	7.31	5330.35
11/2/2018	5337.66	7.16	5330.50
4/1/2019	5337.66	7.41	5330.25
5/6/2019	5337.66	7.58	5330.08
12/3/2019	5337.66	7.09	5330.57
6/16/2020	5337.66	7.34	5330.32
11/2/2020	5337.66	7.01	5330.65
4/19/2021	5337.66	8.27	5329.39
11/10/2021	5337.66	7.42	5330.24
5/20/2022	5337.66	8.55	5329.11
11/8/2022	5337.66	8.04	5329.62
	Maximum Observed:	*5331.04*	*ft AMSL*
	Minimum Observed:	*5329.11*	*ft AMSL*
	Range:	*1.93*	*ft*

MW-65			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/5/2015	5339.74	8.72	5331.02
4/25/2016	5339.74	8.5	5331.24
6/4/2016	5339.74	8.64	5331.10
8/20/2016	5339.74	8.36	5331.38
9/12/2016	5339.74	8.41	5331.33
10/19/2016	5339.74	8.86	5330.88
1/31/2017	5339.74	8.71	5331.03
4/16/2017	5339.74	8.84	5330.90
5/1/2017	5339.74	8.81	5330.93
5/28/2017	5339.74	9.22	5330.52
6/20/2017	5339.74	9.14	5330.60
7/20/2017	5339.74	9.38	5330.36
8/8/2017	5339.74	9.36	5330.38
8/15/2017	5339.74	9.42	5330.32
9/9/2017	5339.74	9.33	5330.41
10/11/2017	5339.74	9.23	5330.51
3/15/2018	5339.74	8.98	5330.76
4/6/2018	5339.74	8.93	5330.81
5/31/2018	5339.74	9.09	5330.65
11/2/2018	5339.74	9.09	5330.65
4/1/2019	5339.74	9.14	5330.60
5/6/2019	5339.74	9.14	5330.60
12/3/2019	5339.74	9.03	5330.71
6/16/2020	5339.74	9.2	5330.54
11/2/2020	5339.74	8.99	5330.75
4/19/2021	5339.74	10.22	5329.52
7/8/2021	5339.74	10.68	5329.06
11/10/2021	5339.74	9.75	5329.99
5/20/2022	5339.74	10.77	5328.97
11/8/2022	5339.74	10.43	5329.31
	Maximum Observed:	*5331.38*	*ft AMSL*
	Minimum Observed:	*5328.97*	*ft AMSL*
	Range:	*2.41*	*ft*

MW-66			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
11/3/2015	5344.69	12.87	5331.82
11/5/2015	5344.69	13.05	5331.64
12/1/2015	5344.69	12.93	5331.76
3/4/2016	5344.69	12.91	5331.78
4/5/2016	5344.69	12.6	5332.09
6/4/2016	5344.69	13.02	5331.67
8/20/2016	5344.69	12.03	5332.66
9/12/2016	5344.69	12.13	5332.56
10/19/2016	5344.69	12.54	5332.15
2/1/2017	5344.69	12.76	5331.93
4/16/2017	5344.69	12.78	5331.91
5/1/2017	5344.69	12.92	5331.77
5/28/2017	5344.69	13.18	5331.51
6/20/2017	5344.69	13.3	5331.39
7/20/2017	5344.69	13.36	5331.33
8/8/2017	5344.69	13.67	5331.02
8/15/2017	5344.69	13.79	5330.90
9/9/2017	5344.69	13.65	5331.04
10/11/2017	5344.69	13.43	5331.26
3/15/2018	5344.69	13.07	5331.62
5/31/2018	5344.69	13.21	5331.48
11/2/2018	5344.69	14.47	5330.22
3/13/2019	5344.69	14.1	5330.59
5/6/2019	5344.69	14.72	5329.97
12/3/2019	5344.69	14.53	5330.16
6/16/2020	5344.69	14.72	5329.97
11/2/2020	5344.69	14.47	5330.22
4/19/2021	5344.69	14.79	5329.90
11/10/2021	5344.69	15.34	5329.35
5/20/2022	5344.69	15.92	5328.77
11/8/2022	5344.69	16.69	5328
	Maximum Observed:	*5332.66*	*ft AMSL*
	Minimum Observed:	*5328.00*	*ft AMSL*
	Range:	*4.66*	*ft*

MW-67			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
10/6/2015	5356.42	25.10	5331.32
11/4/2015	5356.42	24.51	5331.91
11/6/2015	5356.42	24.51	5331.91
12/1/2015	5356.42	24.60	5331.82
3/4/2016	5356.42	24.60	5331.82
4/25/2016	5356.42	24.58	5331.84
6/4/2016	5356.42	24.28	5332.14
8/20/2016	5356.42	23.74	5332.68
9/12/2016	5356.42	23.83	5332.59
10/19/2016	5356.42	24.59	5331.83
1/31/2017	5356.42	24.44	5331.98
4/16/2017	5356.42	24.59	5331.83
5/1/2017	5356.42	24.71	5331.71
5/28/2017	5356.42	24.91	5331.51
6/20/2017	5356.42	25.13	5331.29
7/20/2017	5356.42	25.12	5331.30
8/8/2017	5356.42	25.46	5330.96
8/15/2017	5356.42	25.44	5330.98
9/9/2017	5356.42	25.58	5330.84
10/11/2017	5356.42	25.16	5331.26
3/15/2018	5356.42	24.26	5332.16
5/31/2018	5356.42	25.14	5331.28
11/2/2018	5352.76	22.26	5330.50
3/13/2019	5352.76	21.96	5330.80
5/6/2019	5352.76	22.52	5330.24
12/2/2019	5352.76	22.57	5330.19
6/16/2020	5352.76	22.49	5330.27
11/2/2020	5352.76	22.41	5330.35
4/20/2021	5352.76	22.63	5330.13
11/10/2021	5352.76	23.16	5329.60
5/18/2022	5352.76	24.02	5328.74
11/8/2022	5352.76	24.52	5328.24
	Maximum Observed:	*5332.68*	*ft AMSL*
	Minimum Observed:	*5328.24*	*ft AMSL*
	Range:	*4.44*	*ft*

MW-68			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
10/6/2015	5353.58	21.21	5332.37
11/3/2015	5353.58	20.54	5333.04
11/6/2015	5353.58	20.58	5333.00
12/1/2015	5353.58	20.48	5333.10
4/25/2016	5353.58	20.00	5333.58
6/4/2016	5353.58	20.81	5332.77
8/19/2016	5353.58	19.21	5334.37
9/12/2016	5353.58	19.40	5334.18
10/19/2016	5353.58	19.67	5333.91
1/31/2017	5353.58	19.58	5334.00
4/16/2017	5353.58	19.76	5333.82
5/1/2017	5353.58	20.13	5333.45
5/28/2017	5353.58	20.20	5333.38
6/20/2017	5353.58	20.64	5332.94
7/20/2017	5353.58	19.27	5334.31
8/8/2017	5353.58	20.97	5332.61
8/15/2017	5353.58	21.02	5332.56
9/9/2017	5353.58	20.97	5332.61
10/11/2017	5353.58	20.24	5333.34
3/15/2018	5353.58	19.92	5333.66
5/31/2018	5353.58	20.34	5333.24
11/2/2018	5353.58	22.31	5331.27
3/15/2019	5353.58	22.33	5331.25
5/6/2019	5353.58	22.49	5331.09
12/2/2019	5353.58	22.11	5331.47
6/16/2020	5353.58	22.36	5331.22
11/2/2020	5353.58	22.31	5331.27
4/19/2021	5353.58	22.55	5331.03
11/10/2021	5353.58	22.96	5330.62
5/18/2022	5353.58	23.72	5329.86
11/8/2022	5353.58	24.45	5329.13
Maximum Observed:		*5334.37*	*ft AMSL*
Minimum Observed:		*5329.13*	*ft AMSL*
Range:		*5.24*	*ft*

MW-69			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
10/6/2015	5357.66	23.70	5333.96
11/3/2015	5357.66	23.09	5334.57
11/4/2015	5357.66	23.11	5334.55
12/1/2015	5357.66	23.01	5334.65
3/4/2016	5357.66	22.64	5335.02
4/25/2016	5357.66	22.20	5335.46
6/4/2016	5357.66	23.32	5334.34
8/19/2016	5357.66	21.65	5336.01
9/12/2016	5357.66	21.83	5335.83
10/19/2016	5357.66	22.33	5335.33
1/31/2017	5357.66	22.39	5335.27
4/16/2017	5357.66	22.36	5335.30
5/1/2017	5357.66	22.77	5334.89
5/28/2017	5357.66	23.37	5334.29
6/20/2017	5357.66	23.75	5333.91
7/20/2017	5357.66	23.38	5334.28
8/8/2017	5357.66	23.86	5333.80
8/15/2017	5357.66	23.86	5333.80
9/9/2017	5357.66	23.87	5333.79
10/11/2017	5357.66	23.08	5334.58
3/15/2018	5357.66	22.62	5335.04
5/31/2018	5357.66	22.81	5334.85
11/2/2018	5357.66	25.58	5332.08
3/13/2019	5357.66	25.71	5331.95
5/6/2019	5357.66	26.11	5331.55
12/2/2019	5357.66	25.69	5331.97
6/16/2020	5357.66	26.16	5331.50
11/2/2020	5357.66	26.35	5331.31
4/19/2021	5357.66	26.56	5331.10
11/10/2021	5357.66	26.95	5330.71
5/18/2022	5357.66	27.37	5330.29
11/8/2022	5357.66	27.85	5329.81
	Maximum Observed:	*5336.01*	*ft AMSL*
	Minimum Observed:	*5329.81*	*ft AMSL*
	Range:	*6.20*	*ft*

MW-70			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
10/5/2015	5371.12	37.89	5333.23
11/3/2015	5371.12	37.33	5333.79
11/9/2015	5371.12	37.48	5333.64
12/1/2015	5371.12	37.33	5333.79
3/4/2016	5371.12	37.07	5334.05
4/25/2016	5371.12	36.70	5334.42
6/4/2016	5371.12	37.32	5333.80
8/20/2016	5371.12	36.45	5334.67
9/12/2016	5371.12	36.38	5334.74
10/19/2016	5371.12	36.59	5334.53
2/1/2017	5371.12	36.95	5334.17
4/25/2017	5371.12	36.70	5334.42
5/1/2017	5371.12	36.97	5334.15
5/28/2017	5371.12	37.44	5333.68
6/20/2017	5371.12	37.57	5333.55
7/20/2017	5371.12	37.70	5333.42
8/8/2017	5371.12	37.77	5333.35
8/15/2017	5371.12	37.93	5333.19
9/9/2017	5371.12	37.91	5333.21
10/11/2017	5371.12	37.59	5333.53
3/15/2018	5371.12	37.19	5333.93
5/31/2018	5371.12	37.08	5334.04
11/2/2018	5371.12	39.13	5331.99
3/13/2019	5371.12	39.03	5332.09
5/6/2019	5371.12	39.66	5331.46
12/3/2019	5371.12	39.88	5331.24
6/16/2020	5371.12	40.01	5331.11
11/2/2020	5371.12	40.21	5330.91
4/19/2021	5371.12	40.22	5330.90
11/10/2021	5371.12	40.69	5330.43
5/20/2022	5371.12	40.62	5330.50
11/8/2022	5371.12	41.44	5329.68
	Maximum Observed:	*5334.74*	*ft AMSL*
	Minimum Observed:	*5329.68*	*ft AMSL*
	Range:	*5.06*	*ft*

MW-71			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
3/5/2016	5362.91	31.50	5331.41
4/25/2016	5362.91	31.41	5331.50
6/4/2016	5362.91	31.69	5331.22
8/19/2016	5362.91	31.34	5331.57
9/12/2016	5362.91	31.21	5331.70
10/19/2016	5362.91	31.58	5331.33
1/31/2017	5362.91	31.51	5331.40
4/16/2017	5362.91	31.50	5331.41
5/1/2017	5362.91	31.49	5331.42
5/28/2017	5362.91	31.70	5331.21
6/20/2017	5362.91	31.72	5331.19
7/20/2017	5362.91	31.71	5331.20
8/8/2017	5362.91	31.72	5331.19
8/15/2017	5362.91	31.66	5331.25
9/9/2017	5362.91	31.89	5331.02
10/11/2017	5362.91	31.82	5331.09
3/15/2018	5362.91	31.18	5331.73
5/31/2018	5362.91	31.71	5331.20
11/2/2018	5362.91	32.09	5330.82
3/13/2019	5362.91	32.25	5330.66
5/6/2019	5362.91	32.29	5330.62
12/2/2019	5362.91	32.11	5330.80
6/16/2020	5362.91	32.26	5330.65
11/2/2020	5362.91	32.17	5330.74
4/19/2021	5362.91	32.22	5330.69
11/10/2021	5362.91	32.88	5330.03
5/18/2022	5362.91	33.06	5329.85
11/8/2022	5362.91	33.54	5329.37
	Maximum Observed:	*5331.73*	*ft AMSL*
	Minimum Observed:	*5329.37*	*ft AMSL*
	Range:	*2.36*	*ft*

MW-72			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
3/5/2016	5381.62	49.72	5331.90
4/25/2016	5381.62	49.12	5332.50
6/4/2016	5381.62	49.76	5331.86
8/19/2016	5381.62	49.54	5332.08
9/12/2016	5381.62	49.43	5332.19
10/19/2016	5381.62	49.49	5332.13
1/31/2017	5381.62	49.49	5332.13
4/16/2017	5381.62	49.37	5332.25
5/1/2017	5381.62	49.33	5332.29
5/28/2017	5381.62	49.63	5331.99
6/20/2017	5381.62	49.65	5331.97
7/20/2017	5381.62	49.68	5331.94
8/8/2017	5381.62	49.68	5331.94
8/15/2017	5381.62	49.54	5332.08
9/9/2017	5381.62	49.75	5331.87
10/11/2017	5381.62	49.81	5331.81
3/15/2018	5381.62	49.21	5332.41
5/31/2018	5381.62	49.65	5331.97
11/2/2018	5381.62	50.06	5331.56
3/14/2019	5381.62	50.12	5331.50
5/6/2019	5381.62	49.98	5331.64
11/18/2019	5381.62	50.17	5331.45
6/16/2020	5381.62	50.12	5331.50
11/2/2020	5381.62	50.39	5331.23
4/22/2021	5381.62	NM	
11/10/2021	5381.62	50.62	5331.00
5/18/2022	5381.62	50.73	5330.89
11/8/2022	5381.62	51.05	5330.57
	Maximum Observed:	*5332.50*	*ft AMSL*
	Minimum Observed:	*5330.57*	*ft AMSL*
	Range:	*1.93*	*ft*

MW-73			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
1/31/2017	5353.95	23.99	5329.96
4/16/2017	5353.95	24.38	5329.57
5/1/2017	5353.95	24.28	5329.67
5/28/2017	5353.95	24.29	5329.66
6/20/2017	5353.95	24.54	5329.41
7/20/2017	5353.95	25.27	5328.68
8/8/2017	5353.95	25.47	5328.48
8/15/2017	5353.95	25.74	5328.21
9/9/2017	5353.95	25.32	5328.63
10/11/2017	5353.95	24.59	5329.36
3/15/2018	5353.95	23.90	5330.05
5/31/2018	5353.95	24.86	5329.09
11/2/2018	5353.95	24.89	5329.06
3/13/2019	5353.95	24.34	5329.61
5/6/2019	5353.95	25.31	5328.64
11/18/2019	5353.95	24.73	5329.22
6/16/2020	5353.95	24.71	5329.24
11/2/2020	5353.95	24.33	5329.62
4/19/2021	5353.95	24.15	5329.80
11/10/2021	5353.95	24.91	5329.04
5/18/2022	5353.95	25.28	5328.67
11/8/2022	5353.95	26.48	5327.47
	Maximum Observed:	*5330.05*	*ft AMSL*
	Minimum Observed:	*5327.47*	*ft AMSL*
	Range:	*2.58*	*ft*

MW-74			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
1/31/2017	5219.09	16.53	5202.56
4/16/2017	5219.09	16.61	5202.48
5/1/2017	5219.09	16.76	5202.33
5/28/2017	5219.09	17.12	5201.97
6/20/2017	5219.09	17.61	5201.48
7/20/2017	5219.09	18.46	5200.63
8/8/2017	5219.09	18.94	5200.15
8/15/2017	5219.09	19.67	5199.42
9/9/2017	5219.09	19.36	5199.73
10/11/2017	5219.09	19.67	5199.42
3/15/2018	5219.09	16.54	5202.55
5/31/2018	5219.09	17.69	5201.40
11/2/2018	5219.09	19.92	5199.17
3/16/2019	5219.09	16.65	5202.44
5/13/2019	5219.09	17.19	5201.90
11/18/2019	5219.09	19.84	5199.25
6/16/2020	5219.09	18.68	5200.41
11/2/2020	5219.09	20.08	5199.01
4/19/2021	5219.09	16.55	5202.54
11/10/2021	5219.09	20.11	5198.98
5/18/2022	5219.09	17.51	5201.58
11/8/2022	5219.09	20.08	5199.01
Maximum Observed:		*5202.56*	*ft AMSL*
Minimum Observed:		*5198.98*	*ft AMSL*
Range:		*3.58*	*ft*

MW-75			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
4/16/2017	5126.80	24.42	5102.38
5/1/2017	5126.80	24.48	5102.32
5/28/2017	5126.80	24.64	5102.16
6/20/2017	5126.80	24.71	5102.09
7/20/2017	5126.80	24.88	5101.92
8/8/2017	5126.80	24.89	5101.91
8/15/2017	5126.80	24.93	5101.87
9/9/2017	5126.80	25.02	5101.78
10/11/2017	5126.80	24.95	5101.85
3/15/2018	5126.80	25.13	5101.67
5/31/2018	5126.80	25.54	5101.26
11/2/2018	5126.80	25.92	5100.88
3/16/2019	5126.80	26.04	5100.76
5/13/2019	5126.80	26.11	5100.69
11/18/2019	5126.80	26.08	5100.72
6/17/2020	5126.80	26.85	5099.95
11/3/2020	5126.80	27.03	5099.77
4/20/2021	5126.80	27.11	5099.69
11/10/2021	5126.80	27.54	5099.26
5/18/2022	5126.80	27.79	5099.01
11/8/2022	5126.80	27.93	5098.87
Maximum Observed:		*5102.38*	*ft AMSL*
Minimum Observed:		*5098.87*	*ft AMSL*
Range:		*3.51*	*ft*

MW-76			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
4/16/2017	5116.23	Dry	
5/1/2017	5116.23	Dry	
5/28/2017	5116.23	Dry	
6/20/2017	5116.23	Dry	
7/20/2017	5116.23	28.78	5087.45
8/8/2017	5116.23	Dry	
8/15/2017	5116.23	Dry	
9/9/2017	5116.23	27.76	5088.47
10/11/2017	5116.23	Dry	
3/15/2018	5116.23	26.79	5089.44
5/31/2018	5116.23	Dry	
11/2/2018	5116.23	Dry	
4/2/2019	5116.23	27.44	5088.79
11/18/2019	5116.23	23.98	5092.25
6/18/2020	5116.23	27.26	5088.97
11/3/2020	5116.23	27.42	5088.81
4/20/2021	5116.23	27.71	5088.52
11/11/2021	5116.23	29.12	5087.11
5/19/2022	5116.23	28.85	5087.38
11/9/2022	5116.23	28.91	5087.32
Maximum Observed:		*5092.25*	*ft AMSL*
Minimum Observed:		*5087.11*	*ft AMSL*
Range:		*5.14*	*ft*

MW-83			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
12/15/2018	5343.15	13.38	5329.77
3/13/2019	5343.15	13.40	5329.75
5/6/2019	5343.15	13.47	5329.68
12/2/2019	5343.15	13.31	5329.84
6/16/2020	5343.15	13.29	5329.86
11/2/2020	5343.15	13.26	5329.89
4/19/2021	5343.15	13.7	5329.45
11/10/2021	5343.15	13.87	5329.28
5/18/2022	5343.15	14.09	5329.06
11/8/2022	5343.15	15.09	5328.06
	Maximum Observed:	*5329.89*	*ft AMSL*
	Minimum Observed:	*5328.06*	*ft AMSL*
	Range:	*1.83*	*ft*

MW-84			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
12/15/2018	5338.23	8.39	5329.84
3/13/2019	5338.23	7.85	5330.38
5/6/2019	5338.23	8.42	5329.81
12/2/2019	5338.23	8.17	5330.06
6/16/2020	5338.23	8.26	5329.97
11/2/2020	5338.23	8.13	5330.1
4/19/2021	5338.23	8.44	5329.79
11/10/2021	5338.23	8.97	5329.26
5/18/2022	5338.23	9.54	5328.69
11/8/2022	5338.23	10.17	5328.06
	Maximum Observed:	*5330.38*	*ft AMSL*
	Minimum Observed:	*5328.06*	*ft AMSL*
	Range:	*2.32*	*ft*

MW-85			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
12/15/2018	5352.78	22.53	5330.25
3/13/2019	5352.78	22.16	5330.62
5/6/2019	5352.78	22.83	5329.95
12/2/2019	5352.78	22.48	5330.30
6/16/2020	5352.78	22.68	5330.1
11/2/2020	5352.78	22.51	5330.27
4/19/2021	5352.78	22.8	5329.98
11/10/2021	5352.78	23.3	5329.48
5/18/2022	5352.78	23.73	5329.05
11/8/2022	5352.78	24.07	5328.71
	Maximum Observed:	*5330.62*	*ft AMSL*
	Minimum Observed:	*5328.71*	*ft AMSL*
	Range:	*1.91*	*ft*

MW-86			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
12/15/2018	5338.76	9.08	5329.68
3/13/2019	5338.76	8.53	5330.23
5/6/2019	5338.76	9.08	5329.68
12/3/2019	5338.76	8.82	5329.94
6/16/2020	5338.76	8.99	5329.77
11/2/2020	5338.76	8.76	5330
4/19/2021	5338.76	9.2	5329.56
11/10/2021	5339.76	9.53	5330.23
5/20/2022	5339.76	9.74	5330.02
11/8/2022	5339.76	10.79	5327.968
Maximum Observed:		*5330.23*	*ft AMSL*
Minimum Observed:		*5327.97*	*ft AMSL*
Range:		*2.26*	*ft*

MW-87			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
12/15/2018	5076.53	Dry	
3/13/2019	5076.53	31.95	5044.58
5/13/2019	5076.53	30.46	5046.07
11/18/2019	5076.53	30.62	5045.91
6/18/2020	5076.53	30.24	5046.29
11/3/2020	5076.53	31.86	5044.67
4/20/2021	5076.53	30.75	5045.78
11/11/2021	5076.53	31.67	5044.86
5/19/2022	5076.53	31.6	5044.93
11/9/2022	5076.53	32.24	5044.287
Maximum Observed:		*5046.29*	*ft AMSL*
Minimum Observed:		*5044.29*	*ft AMSL*
Range:		*2.00*	*ft*

MW-88			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
6/17/2020	5365.249	Dry	Dry
11/2/2020	5365.249	Dry	Dry
4/19/2021	5365.249	Dry	Dry
11/10/2021	5365.249	Dry	Dry
5/18/2022	5365.249	32	Dry
11/8/2022	5365.249	31.99	Dry
Maximum Observed:		*0.00*	*ft AMSL*
Minimum Observed:		*0.00*	*ft AMSL*
Range:		*0.00*	*ft*

MW-89			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
6/17/2020	5370.208	35.21	5334.998
11/2/2020	5370.208	35.21	5334.998
4/19/2021	5370.208	35.19	5335.018
11/10/2021	5370.208	35.22	5334.988
5/18/2022	5370.208	35.21	Dry
11/8/2022	5370.208	35.21	Dry
Maximum Observed:		*5335.02*	*ft AMSL*
Minimum Observed:		*5334.99*	*ft AMSL*
Range:		*0.03*	*ft*

Note: Water levels are field-noted to be measurements of saturated sediment or likely condensate accumulation in well.

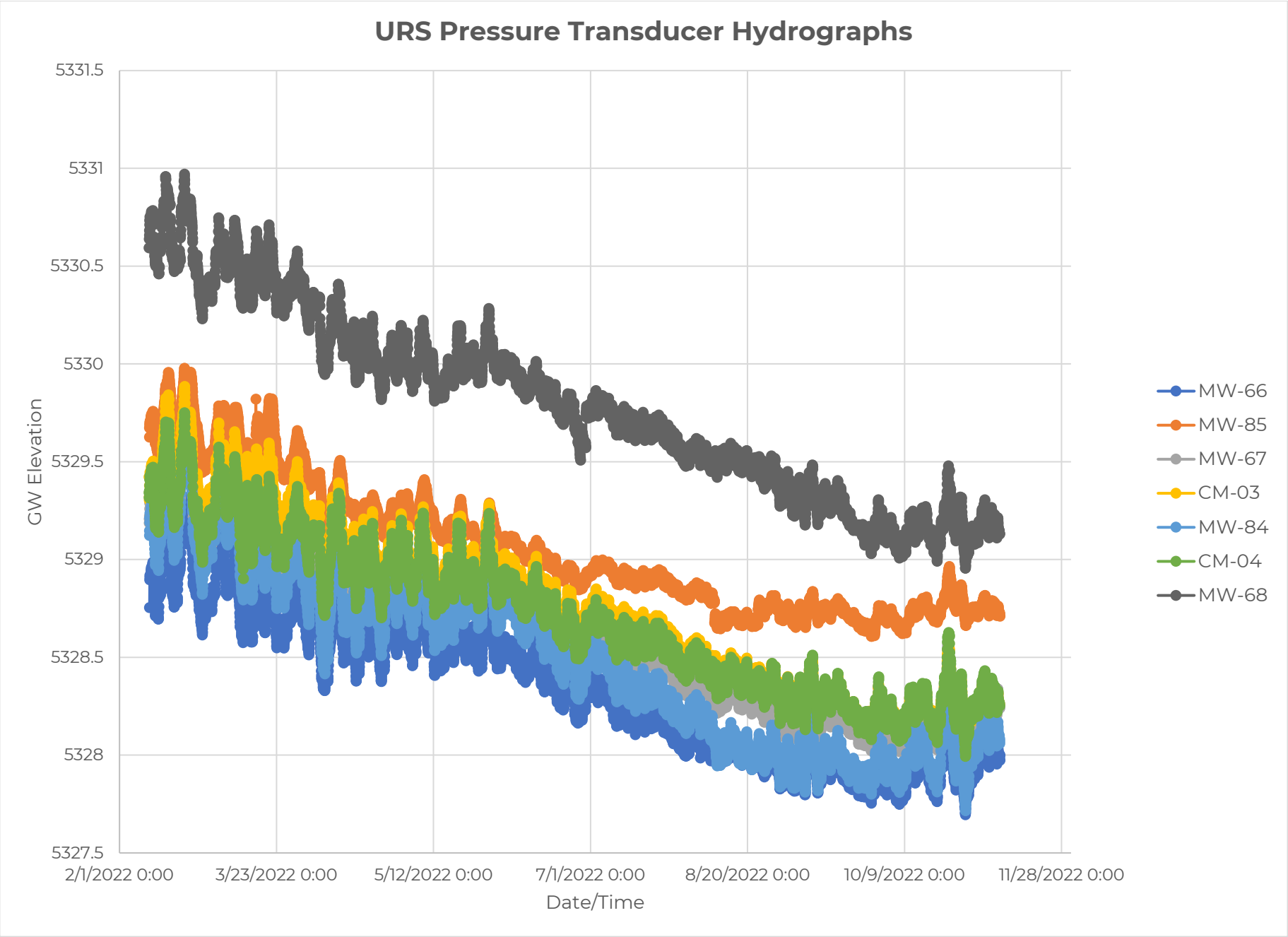
MW-90			
Date of Measurement	**Measuring Pt Elevation [ft AMSL]**	**Water Level [ft bmp]**	**GW Elevation [ft AMSL]**
6/17/2020	5374.082	40.32	5333.762
11/2/2020	5374.082	40.31	5333.772
4/19/2021	5374.082	40.16	5333.922
11/10/2021	5374.082	40.19	5333.892
5/18/2022	5374.082	40.13	Dry
11/8/2022	5374.082	40.14	Dry
Maximum Observed:		*5333.92*	*ft AMSL*
Minimum Observed:		*5333.76*	*ft AMSL*
Range:		*0.16*	*ft*

Note: Water levels are field-noted to be measurements of saturated sediment or likely condensate accumulation in well.

APPENDIX

H

URS CM-01/URS-01 AND CM-02/URS-02 EXTRACTION SYSTEM TRANSDUCER HYDROGRAPHS


URS Pressure Transducer Hydrographs
5331.5
5331
5330.5
5330
5329.5
5329
5328.5
5328
5327.5
GW Elevation
2/1/2022 0:00
3/23/2022 0:00
5/12/2022 0:00
7/1/2022 0:00
8/20/2022 0:00
10/9/2022 0:00
11/28/2022 0:00
Date/Time
MW-66
MW-85
MW-67
CM-03
MW-84
CM-04
MW-68

APPENDIX

I

2022 ANALYTICAL LABORATORY REPORTS

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
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Suite #189
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Tel: (602)437-3340

Laboratory Job ID: 550-178969-1
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
2/18/2022 3:23:42 PM

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LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-178969-1

Qualifiers

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-178969-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-178969-1

Comments
No additional comments.

Receipt
The samples were received on 2/11/2022 4:38 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.6º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-178969-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-178969-1	FC-CCR-MW62-0222	Water	02/09/22 15:28	02/11/22 16:38
550-178969-2	FC-CCR-MW65-0222	Water	02/09/22 16:08	02/11/22 16:38
550-178969-3	FC-CCR-SW1-0222	Water	02/09/22 13:12	02/11/22 16:38
550-178969-4	FC-CCR-SW2-0222	Water	02/09/22 14:48	02/11/22 16:38
550-178969-5	FC-CCR-SW3-0222	Water	02/09/22 14:28	02/11/22 16:38
550-178969-6	FC-CCR-FD02-0222	Water	02/11/22 09:11	02/11/22 16:38

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-178969-1

Client Sample ID: FC-CCR-MW62-0222 — Lab Sample ID: 550-178969-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.9		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: FC-CCR-MW65-0222 — Lab Sample ID: 550-178969-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.71		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: FC-CCR-SW1-0222 — Lab Sample ID: 550-178969-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	8.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW2-0222 — Lab Sample ID: 550-178969-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	8.2	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW3-0222 — Lab Sample ID: 550-178969-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	8.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD02-0222 — Lab Sample ID: 550-178969-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	8.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-178969-1

Client Sample ID: FC-CCR-MW62-0222
Lab Sample ID: 550-178969-1
Date Collected: 02/09/22 15:28
Matrix: Water
Date Received: 02/11/22 16:38

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.050	0.0025	mg/L		02/11/22 17:23	02/15/22 23:12	1

Client Sample ID: FC-CCR-MW65-0222
Lab Sample ID: 550-178969-2
Date Collected: 02/09/22 16:08
Matrix: Water
Date Received: 02/11/22 16:38

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.71		0.050	0.0025	mg/L		02/11/22 17:23	02/15/22 23:15	1

Client Sample ID: FC-CCR-SW1-0222
Lab Sample ID: 550-178969-3
Date Collected: 02/09/22 13:12
Matrix: Water
Date Received: 02/11/22 16:38

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.5	H5	1.7	1.7	SU			02/17/22 11:01	1
Temperature	10.2	H5	0.1	0.1	Degrees C			02/17/22 11:01	1

Client Sample ID: FC-CCR-SW2-0222
Lab Sample ID: 550-178969-4
Date Collected: 02/09/22 14:48
Matrix: Water
Date Received: 02/11/22 16:38

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.2	H5	1.7	1.7	SU			02/17/22 11:01	1
Temperature	10.8	H5	0.1	0.1	Degrees C			02/17/22 11:01	1

Client Sample ID: FC-CCR-SW3-0222
Lab Sample ID: 550-178969-5
Date Collected: 02/09/22 14:28
Matrix: Water
Date Received: 02/11/22 16:38

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.5	H5	1.7	1.7	SU			02/17/22 11:01	1
Temperature	11.0	H5	0.1	0.1	Degrees C			02/17/22 11:01	1

Client Sample ID: FC-CCR-FD02-0222
Lab Sample ID: 550-178969-6
Date Collected: 02/11/22 09:11
Matrix: Water
Date Received: 02/11/22 16:38

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.3	H5	1.7	1.7	SU			02/17/22 11:01	1
Temperature	11.3	H5	0.1	0.1	Degrees C			02/17/22 11:01	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-178969-1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-266184/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 266528 — **Prep Batch: 266184**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		02/11/22 17:23	02/15/22 22:10	1

Lab Sample ID: LCS 550-266184/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 266528 — **Prep Batch: 266184**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.969		mg/L		97	85 - 115

Lab Sample ID: LCSD 550-266184/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 266528 — **Prep Batch: 266184**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.977		mg/L		98	85 - 115	1	20

Lab Sample ID: 550-178921-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 266528 — **Prep Batch: 266184**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.12		1.00	1.10		mg/L		99	70 - 130

Lab Sample ID: 550-178921-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 266528 — **Prep Batch: 266184**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.12		1.00	1.10		mg/L		98	70 - 130	1	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-266676/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 266676

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-266676/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 266676

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-178969-1

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-178951-B-2 DU
Matrix: Water
Analysis Batch: 266676

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.2	H5		7.2	H5	SU				0.1	5
Temperature	12.0	H5		12.6	H5	Degrees C				5	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-178969-1

Metals

Prep Batch: 266184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-178969-1	FC-CCR-MW62-0222	Total/NA	Water	200.7	
550-178969-2	FC-CCR-MW65-0222	Total/NA	Water	200.7	
MB 550-266184/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-266184/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-266184/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-178921-A-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-178921-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 266528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-178969-1	FC-CCR-MW62-0222	Total/NA	Water	200.7 Rev 4.4	266184
550-178969-2	FC-CCR-MW65-0222	Total/NA	Water	200.7 Rev 4.4	266184
MB 550-266184/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	266184
LCS 550-266184/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	266184
LCSD 550-266184/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	266184
550-178921-A-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	266184
550-178921-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	266184

General Chemistry

Analysis Batch: 266676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-178969-3	FC-CCR-SW1-0222	Total/NA	Water	SM 4500 H+ B	
550-178969-4	FC-CCR-SW2-0222	Total/NA	Water	SM 4500 H+ B	
550-178969-5	FC-CCR-SW3-0222	Total/NA	Water	SM 4500 H+ B	
550-178969-6	FC-CCR-FD02-0222	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-266676/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-266676/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-178951-B-2 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-178969-1

Client Sample ID: FC-CCR-MW62-0222 — Lab Sample ID: 550-178969-1

Date Collected: 02/09/22 15:28 — **Matrix: Water**
Date Received: 02/11/22 16:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			266184	02/11/22 17:23	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	266528	02/15/22 23:12	MGM	TAL PHX

Client Sample ID: FC-CCR-MW65-0222 — Lab Sample ID: 550-178969-2

Date Collected: 02/09/22 16:08 — **Matrix: Water**
Date Received: 02/11/22 16:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			266184	02/11/22 17:23	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	266528	02/15/22 23:15	MGM	TAL PHX

Client Sample ID: FC-CCR-SW1-0222 — Lab Sample ID: 550-178969-3

Date Collected: 02/09/22 13:12 — **Matrix: Water**
Date Received: 02/11/22 16:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	266676	02/17/22 11:01	SLS	TAL PHX

Client Sample ID: FC-CCR-SW2-0222 — Lab Sample ID: 550-178969-4

Date Collected: 02/09/22 14:48 — **Matrix: Water**
Date Received: 02/11/22 16:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	266676	02/17/22 11:01	SLS	TAL PHX

Client Sample ID: FC-CCR-SW3-0222 — Lab Sample ID: 550-178969-5

Date Collected: 02/09/22 14:28 — **Matrix: Water**
Date Received: 02/11/22 16:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	266676	02/17/22 11:01	SLS	TAL PHX

Client Sample ID: FC-CCR-FD02-0222 — Lab Sample ID: 550-178969-6

Date Collected: 02/11/22 09:11 — **Matrix: Water**
Date Received: 02/11/22 16:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	266676	02/17/22 11:01	SLS	TAL PHX

Laboratory References:

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-178969-1

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-178969-1

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

178969

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2/18/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Cameron Corley (505-860-3619)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below			Walk-in Client:
FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (CWTP)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☑ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 200.7 - Totals (B)	SM 4500-HB (pH)		Sample Specific Notes:
FC-CCR-MW62-0222	2/9/2022	15:28	G	W	1	N	N	X		-01	Low Flow
FC-CCR-MW65-0222	2/9/2022	16:08	G	W	1	N	N	X		-02	"
FC-CCR-SW1-0222	2/9/2022	13:12	G	W	1	N	N		X	-03	Morgan Lake surface grab sample
FC-CCR-SW2-0222	2/9/2022	14:48	G	W	1	N	N		X	-04	CWTP surface grab sample
FC-CCR-SW3-0222	2/9/2022	14:28	G	W	1	N	N		X	-05	Cooling Canal surface grab sample
FC-CCR-FD02-0222	02/11/22	09:11	G	W	1	N	N		X	-06	Dupe
								4	1		

550-178969 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood.	02/11/22 16:30 ~~04:15~~			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EETA-TPhx	Date/Time: 2-11-22 1638

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

2.6°C Dcdonic

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-178969-1

Login Number: 178969
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184630-1
Laboratory SDG: APS Four Corners Power Plant (URS)
Client Project/Site: APS - Four Corners CCR
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/16/2022 4:25:07 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184630-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184630-1

Comments
The report being provided is a revision of the original report sent on 6/15/2022. The report (revision 1) is being revised due to: Methods reported to RL.

No additional comments.

Receipt
The samples were received on 5/25/2022 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.2º C, 0.2º C and 0.3º C.

HPLC/IC
Method 300.0: The following sample was diluted for Fluoride due to the abundance of non-target analytes: FC-CCR-MW72-0522 (550-184630-7). An elevated reporting limit (RL) has been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: FC-CCR-MW66-05222 (550-184630-1), FC-CCR-MW67-0522 (550-184630-2), FC-CCR-MW68-0522 (550-184630-3), FC-CCR-MW86-0522 (550-184630-12) and FC-CCR-FD02-0522 (550-184630-13). Elevated reporting limits (RLs) are provided.

Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-276682 contained Selenium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The method blank for preparation batch 280-577339 and analytical batch 280-577704 contained Li above one-half the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method 200.7 Rev 4.4: The instrument blank for analytical batch 280-577704 contained Li greater than one-half the reporting limit (RL) and were not re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184630-1	FC-CCR-MW66-05222	Water	05/20/22 16:48	05/25/22 14:00
550-184630-2	FC-CCR-MW67-0522	Water	05/21/22 11:45	05/25/22 14:00
550-184630-3	FC-CCR-MW68-0522	Water	05/21/22 10:45	05/25/22 14:00
550-184630-4	FC-CCR-MW69-0522	Water	05/21/22 09:48	05/25/22 14:00
550-184630-5	FC-CCR-MW70-0522	Water	05/20/22 11:30	05/25/22 14:00
550-184630-6	FC-CCR-MW71-0522	Water	05/21/22 15:26	05/25/22 14:00
550-184630-7	FC-CCR-MW72-0522	Water	05/22/22 09:38	05/25/22 14:00
550-184630-8	FC-CCR-MW73-0522	Water	05/22/22 10:32	05/25/22 14:00
550-184630-9	FC-CCR-MW83-0522	Water	05/21/22 13:55	05/25/22 14:00
550-184630-10	FC-CCR-MW84-0522	Water	05/21/22 12:36	05/25/22 14:00
550-184630-11	FC-CCR-FD01-0522	Water	05/21/22 22:00	05/25/22 14:00
550-184630-12	FC-CCR-MW86-0522	Water	05/20/22 16:00	05/25/22 14:00
550-184630-13	FC-CCR-FD02-0522	Water	05/20/22 23:00	05/25/22 14:00

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW66-05222 — Lab Sample ID: 550-184630-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400		mg/L	200		300.0	Total/NA
Fluoride	16	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	11000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.35		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	140		0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	450		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.025	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0063	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.019	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0033	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00066	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	17000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.45	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW67-0522 — Lab Sample ID: 550-184630-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400		mg/L	200		300.0	Total/NA
Fluoride	8.2	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	13000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.42		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	160		0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	460		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00022	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0062	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.034	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0041	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.0011	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	1900		20		mg/L	1		SM 2540C	Total/NA
pH	7.37	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-0522 — Lab Sample ID: 550-184630-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400		mg/L	200		300.0	Total/NA
Fluoride	7.5	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	11000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.45		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	110		0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	450		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.017	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.011	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0063	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0060	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.0016	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	18000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.47	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW69-0522 — Lab Sample ID: 550-184630-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	790	D2	400		mg/L	200		300.0	Total/NA
Fluoride	3.9	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	4800	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.21		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	45		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0014	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.0073	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0018	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0056	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.14	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00032	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8300	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.57	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW70-0522 — Lab Sample ID: 550-184630-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400		mg/L	200		300.0	Total/NA
Fluoride	1.6	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	5600	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.37		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	92		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	510		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0027	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0051	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.17	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00020	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	9900	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.51	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW71-0522 — Lab Sample ID: 550-184630-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	560	D2	400		mg/L	200		300.0	Total/NA
Sulfate	9900	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.37		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.56		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	450		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.0094	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.28	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00037	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	16000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.58	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.8	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW72-0522 — Lab Sample ID: 550-184630-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	410	D2	400		mg/L	200		300.0	Total/NA
Sulfate	9600	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.37		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.22		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.0073	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0025	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.095	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00094	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	13000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.50	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW73-0522 — Lab Sample ID: 550-184630-8

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	570	D2	400		mg/L	200		300.0	Total/NA
Sulfate	7100	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.34		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.6		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.018	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0042	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0038	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00023	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	11000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.47	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW83-0522 — Lab Sample ID: 550-184630-9

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	130	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	2.0	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3500	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.18		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.4		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.0090	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0015	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0073	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	5300	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.71	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.4	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW84-0522 — Lab Sample ID: 550-184630-10

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	940	D2	400		mg/L	200		300.0	Total/NA
Sulfate	8100	D2	400		mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW84-0522 (Continued) — Lab Sample ID: 550-184630-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.25		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	77	M3	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.015	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00022	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0068	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0020	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.070	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Thallium	0.0010	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	13000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.35	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.4	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD01-0522 — Lab Sample ID: 550-184630-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	950	D2	400	mg/L	200		300.0	Total/NA
Sulfate	8400	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.25		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	81		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.016	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0071	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0020	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.074	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Thallium	0.00035	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	13000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.47	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.5	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW86-0522 — Lab Sample ID: 550-184630-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400	mg/L	200		300.0	Total/NA
Fluoride	0.92	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	8600	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.34		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	110		0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.014	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0052	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0016	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.0029	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Thallium	0.00064	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	14000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.45	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD02-0522 — Lab Sample ID: 550-184630-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400	mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD02-0522 (Continued) — Lab Sample ID: 550-184630-13

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.94	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	8400	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.33		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	110		0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	460		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0051	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00062	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	14000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.31	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW66-05222

Lab Sample ID: 550-184630-1
Date Collected: 05/20/22 16:48
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	mg/L			05/26/22 17:46	200
Fluoride	16	D1	0.80	mg/L			05/26/22 16:51	2
Sulfate	11000	D2	400	mg/L			05/26/22 17:46	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 14:58	1
Lithium	0.35		0.020	mg/L		06/08/22 06:59	06/10/22 03:55	1
Boron	140		0.10	mg/L		05/26/22 06:51	06/02/22 21:52	2
Calcium	450		2.0	mg/L		05/26/22 06:51	06/01/22 14:58	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:18	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Barium	0.025	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:18	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:18	2
Cobalt	0.0063	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Molybdenum	0.019	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Selenium	0.0033	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:18	2
Thallium	0.00066	D1	0.00020	mg/L		06/07/22 10:19	06/13/22 12:46	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 18:52	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	17000	D2	100	mg/L			05/26/22 10:53	1
pH	7.45	H5	1.68	SU			06/01/22 14:00	1
Temperature	20.7	H5	0.100	Degrees C			06/01/22 14:00	1

Client Sample ID: FC-CCR-MW67-0522

Lab Sample ID: 550-184630-2
Date Collected: 05/21/22 11:45
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	mg/L			05/26/22 18:05	200
Fluoride	8.2	D1	0.80	mg/L			05/26/22 17:10	2
Sulfate	13000	D2	400	mg/L			05/26/22 18:05	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:01	1
Lithium	0.42		0.020	mg/L		06/08/22 06:59	06/10/22 03:59	1
Boron	160		0.10	mg/L		05/26/22 06:51	06/02/22 21:54	2
Calcium	460		2.0	mg/L		05/26/22 06:51	06/01/22 15:01	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW67-0522

Lab Sample ID: 550-184630-2
Date Collected: 05/21/22 11:45
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:20	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Barium	**0.012**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Cadmium	**0.00022**	**D1**	0.00020	mg/L		06/07/22 10:19	06/09/22 19:20	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:20	2
Cobalt	**0.0062**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Molybdenum	**0.034**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Selenium	**0.0041**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:20	2
Thallium	**0.0011**	**D1**	0.00020	mg/L		06/07/22 10:19	06/13/22 12:48	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 18:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1900**		20	mg/L			05/26/22 10:53	1
pH	**7.37**	**H5**	1.68	SU			06/01/22 14:02	1
Temperature	**20.6**	**H5**	0.100	Degrees C			06/01/22 14:02	1

Client Sample ID: FC-CCR-MW68-0522

Lab Sample ID: 550-184630-3
Date Collected: 05/21/22 10:45
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1000**	**D2**	400	mg/L			05/26/22 18:23	200
Fluoride	**7.5**	**D1**	0.80	mg/L			05/26/22 17:28	2
Sulfate	**11000**	**D2**	400	mg/L			05/26/22 18:23	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:03	1
Lithium	**0.45**		0.020	mg/L		06/08/22 06:59	06/10/22 04:03	1
Boron	**110**		0.10	mg/L		05/26/22 06:51	06/02/22 21:57	2
Calcium	**450**		2.0	mg/L		05/26/22 06:51	06/01/22 15:03	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:22	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Barium	**0.017**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:22	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:22	2
Cobalt	**0.011**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Molybdenum	**0.0063**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Selenium	**0.0060**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:22	2
Thallium	**0.0016**	**D1**	0.00020	mg/L		06/07/22 10:19	06/13/22 12:50	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW68-0522

Lab Sample ID: 550-184630-3
Date Collected: 05/21/22 10:45
Matrix: Water
Date Received: 05/25/22 14:00

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 18:56	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	18000	D2	100	mg/L			05/26/22 10:53	1
pH	7.47	H5	1.68	SU			06/01/22 14:06	1
Temperature	20.6	H5	0.100	Degrees C			06/01/22 14:06	1

Client Sample ID: FC-CCR-MW69-0522

Lab Sample ID: 550-184630-4
Date Collected: 05/21/22 09:48
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	790	D2	400	mg/L			05/26/22 21:09	200
Fluoride	3.9	D1	0.80	mg/L			05/26/22 19:55	2
Sulfate	4800	D2	400	mg/L			05/26/22 21:09	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:06	1
Lithium	0.21		0.020	mg/L		06/08/22 06:59	06/10/22 04:07	1
Boron	45		0.050	mg/L		05/26/22 06:51	06/01/22 15:06	1
Calcium	500		2.0	mg/L		05/26/22 06:51	06/01/22 15:06	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:24	2
Arsenic	0.0014	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Barium	0.0073	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:24	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:24	2
Cobalt	0.0018	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Molybdenum	0.0056	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Selenium	0.14	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:24	2
Thallium	0.00032	D1	0.00020	mg/L		06/07/22 10:19	06/13/22 12:52	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 18:58	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8300	D2	100	mg/L			05/26/22 10:53	1
pH	7.57	H5	1.68	SU			06/01/22 14:13	1
Temperature	20.7	H5	0.100	Degrees C			06/01/22 14:13	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW70-0522

Lab Sample ID: 550-184630-5
Date Collected: 05/20/22 11:30
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**	**D2**	400	mg/L			05/26/22 21:27	200
Fluoride	**1.6**	**D1**	0.80	mg/L			05/26/22 20:14	2
Sulfate	**5600**	**D2**	400	mg/L			05/26/22 21:27	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:08	1
Lithium	**0.37**		0.020	mg/L		06/08/22 06:59	06/10/22 04:11	1
Boron	**92**		0.050	mg/L		05/26/22 06:51	06/01/22 15:08	1
Calcium	**510**		2.0	mg/L		05/26/22 06:51	06/01/22 15:08	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:31	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Barium	**0.012**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:31	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:31	2
Cobalt	**0.0027**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Molybdenum	**0.0051**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Selenium	**0.17**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:31	2
Thallium	**0.00020**	**D1**	0.00020	mg/L		06/07/22 10:19	06/14/22 10:43	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**9900**	**D2**	100	mg/L			05/26/22 10:53	1
pH	**7.51**	**H5**	1.68	SU			06/01/22 14:16	1
Temperature	**20.7**	**H5**	0.100	Degrees C			06/01/22 14:16	1

Client Sample ID: FC-CCR-MW71-0522

Lab Sample ID: 550-184630-6
Date Collected: 05/21/22 15:26
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**560**	**D2**	400	mg/L			05/26/22 21:46	200
Fluoride	<0.80	D1	0.80	mg/L			05/26/22 20:32	2
Sulfate	**9900**	**D2**	400	mg/L			05/26/22 21:46	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:11	1
Lithium	**0.37**		0.020	mg/L		06/08/22 06:59	06/10/22 04:15	1
Boron	**0.56**		0.050	mg/L		05/26/22 06:51	06/01/22 15:11	1
Calcium	**450**		2.0	mg/L		05/26/22 06:51	06/01/22 15:11	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW71-0522

Lab Sample ID: 550-184630-6
Date Collected: 05/21/22 15:26
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:33	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Barium	**0.0094**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:33	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:33	2
Cobalt	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Molybdenum	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Selenium	**0.28**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:33	2
Thallium	**0.00037**	**D1**	0.00020	mg/L		06/07/22 10:19	06/14/22 10:45	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**16000**	**D2**	100	mg/L			05/26/22 10:53	1
pH	**7.58**	**H5**	1.68	SU			06/01/22 14:19	1
Temperature	**20.8**	**H5**	0.100	Degrees C			06/01/22 14:19	1

Client Sample ID: FC-CCR-MW72-0522

Lab Sample ID: 550-184630-7
Date Collected: 05/22/22 09:38
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**410**	**D2**	400	mg/L			05/26/22 22:04	200
Fluoride	<0.80	D1 D5	0.80	mg/L			05/26/22 20:50	2
Sulfate	**9600**	**D2**	400	mg/L			05/26/22 22:04	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:14	1
Lithium	**0.37**		0.020	mg/L		06/08/22 06:59	06/10/22 04:19	1
Boron	**0.22**		0.050	mg/L		05/26/22 06:51	06/01/22 15:14	1
Calcium	**440**		2.0	mg/L		05/26/22 06:51	06/01/22 15:14	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:35	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Barium	**0.0073**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:35	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:35	2
Cobalt	**0.0025**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Molybdenum	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Selenium	**0.095**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:35	2
Thallium	**0.00094**	**D1**	0.00020	mg/L		06/07/22 10:19	06/14/22 10:47	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW72-0522

Lab Sample ID: 550-184630-7
Date Collected: 05/22/22 09:38
Matrix: Water
Date Received: 05/25/22 14:00

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	13000	D2	100	mg/L			05/26/22 10:53	1
pH	7.50	H5	1.68	SU			06/01/22 14:22	1
Temperature	20.7	H5	0.100	Degrees C			06/01/22 14:22	1

Client Sample ID: FC-CCR-MW73-0522

Lab Sample ID: 550-184630-8
Date Collected: 05/22/22 10:32
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	570	D2	400	mg/L			05/27/22 01:45	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 01:08	2
Sulfate	7100	D2	400	mg/L			05/27/22 01:45	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:16	1
Lithium	0.34		0.020	mg/L		06/08/22 06:59	06/10/22 04:23	1
Boron	1.6		0.050	mg/L		05/26/22 06:51	06/01/22 15:16	1
Calcium	470		2.0	mg/L		05/26/22 06:51	06/01/22 15:16	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:37	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:37	2
Barium	0.018	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:37	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:37	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:37	2
Cobalt	0.0042	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:37	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:37	2
Molybdenum	0.0012	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:37	2
Selenium	0.0038	D1	0.0010	mg/L		06/07/22 10:19	06/14/22 10:49	2
Thallium	0.00023	D1	0.00020	mg/L		06/07/22 10:19	06/14/22 10:49	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:06	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000	D2	100	mg/L			05/26/22 10:53	1
pH	7.47	H5	1.68	SU			06/01/22 14:26	1
Temperature	20.6	H5	0.100	Degrees C			06/01/22 14:26	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW83-0522

Lab Sample ID: 550-184630-9
Date Collected: 05/21/22 13:55
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**130**	**D2**	4.0	mg/L			05/27/22 01:26	2
Fluoride	**2.0**	**D1**	0.80	mg/L			05/27/22 01:26	2
Sulfate	**3500**	**D2**	400	mg/L			05/27/22 02:03	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:19	1
Lithium	**0.18**		0.020	mg/L		06/08/22 06:59	06/10/22 04:43	1
Boron	**2.4**		0.050	mg/L		05/26/22 06:51	06/01/22 15:19	1
Calcium	**440**		2.0	mg/L		05/26/22 06:51	06/01/22 15:19	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:39	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:39	2
Barium	**0.0090**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:39	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:39	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:39	2
Cobalt	**0.0015**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:39	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:39	2
Molybdenum	**0.0073**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:39	2
Selenium	**0.0012**	**D1**	0.0010	mg/L		06/07/22 10:19	06/14/22 10:51	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/14/22 10:51	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:08	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5300**	**D2**	100	mg/L			05/26/22 10:53	1
pH	**7.71**	**H5**	1.68	SU			06/01/22 14:29	1
Temperature	**20.4**	**H5**	0.100	Degrees C			06/01/22 14:29	1

Client Sample ID: FC-CCR-MW84-0522

Lab Sample ID: 550-184630-10
Date Collected: 05/21/22 12:36
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**940**	**D2**	400	mg/L			05/27/22 04:12	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 03:17	2
Sulfate	**8100**	**D2**	400	mg/L			05/27/22 04:12	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 14:55	1
Lithium	**0.25**		0.020	mg/L		06/08/22 06:59	06/10/22 04:47	1
Boron	**77**	**M3**	0.050	mg/L		05/26/22 06:51	06/01/22 14:55	1
Calcium	**480**	**M3**	2.0	mg/L		05/26/22 06:51	06/01/22 14:55	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW84-0522

Lab Sample ID: 550-184630-10
Date Collected: 05/21/22 12:36
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:16	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Barium	**0.015**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Cadmium	**0.00022**	**D1**	0.00020	mg/L		06/07/22 10:19	06/09/22 19:16	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:16	2
Cobalt	**0.0068**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Molybdenum	**0.0020**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Selenium	**0.070**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:16	2
Thallium	**0.0010**	**D1**	0.00020	mg/L		06/07/22 10:19	06/13/22 12:44	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 18:50	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**13000**	**D2**	100	mg/L			05/26/22 10:53	1
pH	**7.35**	**H5**	1.68	SU			06/01/22 14:32	1
Temperature	**20.4**	**H5**	0.100	Degrees C			06/01/22 14:32	1

Client Sample ID: FC-CCR-FD01-0522

Lab Sample ID: 550-184630-11
Date Collected: 05/21/22 22:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**950**	**D2**	400	mg/L			05/27/22 02:15	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 00:51	2
Sulfate	**8400**	**D2**	400	mg/L			05/27/22 02:15	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:27	1
Lithium	**0.25**		0.020	mg/L		06/08/22 06:59	06/10/22 05:04	1
Boron	**81**		0.050	mg/L		05/26/22 06:51	06/01/22 15:27	1
Calcium	**490**		2.0	mg/L		05/26/22 06:51	06/01/22 15:27	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:41	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Barium	**0.016**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:41	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:41	2
Cobalt	**0.0071**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Molybdenum	**0.0020**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Selenium	**0.074**	**D1**	0.0010	mg/L		06/07/22 10:19	06/09/22 19:41	2
Thallium	**0.00035**	**D1**	0.00020	mg/L		06/07/22 10:19	06/14/22 10:53	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD01-0522

Lab Sample ID: 550-184630-11
Date Collected: 05/21/22 22:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	13000	D2	100	mg/L			05/26/22 10:53	1
pH	7.47	H5	1.68	SU			06/01/22 14:35	1
Temperature	20.5	H5	0.100	Degrees C			06/01/22 14:35	1

Client Sample ID: FC-CCR-MW86-0522

Lab Sample ID: 550-184630-12
Date Collected: 05/20/22 16:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1200	D2	400	mg/L			05/27/22 02:43	200
Fluoride	0.92	D1	0.80	mg/L			05/27/22 01:19	2
Sulfate	8600	D2	400	mg/L			05/27/22 02:43	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:29	1
Lithium	0.34		0.020	mg/L		06/08/22 06:59	06/10/22 05:08	1
Boron	110		0.10	mg/L		05/26/22 06:51	06/02/22 21:59	2
Calcium	470		2.0	mg/L		05/26/22 06:51	06/01/22 15:29	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:43	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:43	2
Barium	0.014	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:43	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:19	06/09/22 19:43	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:19	06/09/22 19:43	2
Cobalt	0.0052	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:43	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:43	2
Molybdenum	0.0016	D1	0.0010	mg/L		06/07/22 10:19	06/09/22 19:43	2
Selenium	0.0029	D1	0.0010	mg/L		06/07/22 10:19	06/14/22 10:55	2
Thallium	0.00064	D1	0.00020	mg/L		06/07/22 10:19	06/14/22 10:55	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/27/22 14:58	05/27/22 19:16	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	14000	D2	100	mg/L			05/26/22 10:53	1
pH	7.45	H5	1.68	SU			06/01/22 14:39	1
Temperature	20.6	H5	0.100	Degrees C			06/01/22 14:39	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD02-0522

Lab Sample ID: 550-184630-13

Date Collected: 05/20/22 23:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**	**D2**	400		mg/L			05/27/22 03:11	200
Fluoride	**0.94**	**D1**	0.80		mg/L			05/27/22 01:47	2
Sulfate	**8400**	**D2**	400		mg/L			05/27/22 03:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 06:51	06/01/22 15:32	1
Lithium	**0.33**		0.020		mg/L		06/08/22 06:59	06/10/22 05:12	1
Boron	**110**		0.10		mg/L		05/26/22 06:51	06/02/22 22:02	2
Calcium	**460**		2.0		mg/L		05/26/22 06:51	06/01/22 15:32	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020		mg/L		06/07/22 10:19	06/09/22 19:45	2
Arsenic	<0.0010	D1	0.0010		mg/L		06/07/22 10:19	06/09/22 19:45	2
Barium	**0.016**	**D1**	0.0010		mg/L		06/07/22 10:19	06/09/22 19:45	2
Cadmium	<0.00020	D1	0.00020		mg/L		06/07/22 10:19	06/09/22 19:45	2
Chromium	<0.0020	D1	0.0020		mg/L		06/07/22 10:19	06/09/22 19:45	2
Cobalt	**0.0051**	**D1**	0.0010		mg/L		06/07/22 10:19	06/09/22 19:45	2
Lead	<0.0010	D1	0.0010		mg/L		06/07/22 10:19	06/09/22 19:45	2
Molybdenum	**0.0016**	**D1**	0.0010		mg/L		06/07/22 10:19	06/09/22 19:45	2
Selenium	**0.0016**	**D1**	0.0010		mg/L		06/07/22 10:19	06/14/22 10:58	2
Thallium	**0.00062**	**D1**	0.00020		mg/L		06/07/22 10:19	06/14/22 10:58	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020		mg/L		05/27/22 14:58	05/27/22 19:18	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**14000**	**D2**	100		mg/L			05/26/22 10:53	1
pH	**7.31**	**H5**	1.68		SU			06/03/22 13:11	1
Temperature	**10.7**	**H5**	0.100		Degrees C			06/03/22 13:11	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275348/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/26/22 10:43	1
Fluoride	<0.40		0.40		mg/L			05/26/22 10:43	1
Sulfate	<2.0		2.0		mg/L			05/26/22 10:43	1

Lab Sample ID: LCS 550-275348/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	21.0		mg/L		105	90 - 110		
Fluoride			4.00	3.97		mg/L		99	90 - 110		
Sulfate			20.0	20.5		mg/L		103	90 - 110		

Lab Sample ID: LCSD 550-275348/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride			4.00	3.99		mg/L		100	90 - 110	1	20
Sulfate			20.0	20.5		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride	<0.80	D1	8.00	6.97	D1	mg/L		86	80 - 120		

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	940	D2	4000	5260	D2	mg/L		108	80 - 120		
Sulfate	8100	D2	4000	12200	D2	mg/L		102	80 - 120		

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	<0.80	D1	8.00	6.97	D1	mg/L		86	80 - 120	0	20

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	940	D2	4000	5260	D2	mg/L		108	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275348

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	8100	D2	4000	12100	D2	mg/L		100	80 - 120	1	20

Lab Sample ID: MB 550-275349/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/26/22 11:21	1
Fluoride	<0.40		0.40		mg/L			05/26/22 11:21	1
Sulfate	<2.0		2.0		mg/L			05/26/22 11:21	1

Lab Sample ID: LCS 550-275349/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	4.12		mg/L		103	90 - 110		
Sulfate			20.0	20.4		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-275349/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.12		mg/L		103	90 - 110	0	20
Sulfate			20.0	20.5		mg/L		103	90 - 110	1	20

Lab Sample ID: 550-184633-A-3 MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	47	D1	100	161	D1	mg/L		114	80 - 120		
Sulfate	290	D2	100	392	D2	mg/L		106	80 - 120		

Lab Sample ID: 550-184633-A-3 MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	47	D1	100	161	D1	mg/L		114	80 - 120	0	20
Fluoride	<2.0	D1	20.0	22.4	D1	mg/L		105	80 - 120	NC	20
Sulfate	290	D2	100	391	D2	mg/L		105	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275218/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 06:51	06/01/22 14:42	1
Boron	<0.050		0.050		mg/L		05/26/22 06:51	06/01/22 14:42	1
Calcium	<2.0		2.0		mg/L		05/26/22 06:51	06/01/22 14:42	1

Lab Sample ID: LCS 550-275218/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	1.00		mg/L		100	85 - 115		
Boron			1.00	0.967		mg/L		97	85 - 115		
Calcium			21.0	20.1		mg/L		96	85 - 115		

Lab Sample ID: LCSD 550-275218/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	0.990		mg/L		99	85 - 115	1	20
Boron			1.00	0.977		mg/L		98	85 - 115	1	20
Calcium			21.0	19.8		mg/L		94	85 - 115	1	20

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium	<0.0010		1.00	1.03		mg/L		103	70 - 130		
Boron	77	M3	1.00	74.9	M3	mg/L		-247	70 - 130		
Calcium	480	M3	21.0	466	M3	mg/L		-61	70 - 130		

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010		1.00	1.15		mg/L		115	70 - 130	11	20
Boron	77	M3	1.00	74.8	M3	mg/L		-255	70 - 130	0	20
Calcium	480	M3	21.0	469	M3	mg/L		-44	70 - 130	1	20

Lab Sample ID: MB 280-577339/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577704 — **Prep Batch: 577339**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/08/22 06:59	06/10/22 03:47	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-577339/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577704 — **Prep Batch: 577339**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	1.05		mg/L		105	90 - 112		

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577704 — **Prep Batch: 577339**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.25		1.00	1.35		mg/L		110	70 - 130		

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577704 — **Prep Batch: 577339**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.25		1.00	1.35		mg/L		110	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-276185/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		06/07/22 10:19	06/09/22 19:06	1
Arsenic	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1
Barium	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1
Cadmium	<0.00010		0.00010		mg/L		06/07/22 10:19	06/09/22 19:06	1
Chromium	<0.0010		0.0010		mg/L		06/07/22 10:19	06/09/22 19:06	1
Cobalt	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1
Lead	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1
Molybdenum	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1
Selenium	<0.00050		0.00050		mg/L		06/07/22 10:19	06/09/22 19:06	1

Lab Sample ID: MB 550-276185/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276736 — **Prep Batch: 276185**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00010		0.00010		mg/L		06/07/22 10:19	06/13/22 12:33	1

Lab Sample ID: LCS 550-276185/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			0.100	0.0906	D1	mg/L		91	85 - 115		
Arsenic			0.100	0.0976	D1	mg/L		98	85 - 115		
Barium			0.100	0.101	D1	mg/L		101	85 - 115		
Cadmium			0.100	0.0977	D1	mg/L		98	85 - 115		
Chromium			0.100	0.0998	D1	mg/L		100	85 - 115		

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-276185/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.100	0.0997	D1	mg/L		100	85 - 115
Lead	0.100	0.0962	D1	mg/L		96	85 - 115
Molybdenum	0.100	0.0969	D1	mg/L		97	85 - 115
Selenium	0.100	0.101	D1	mg/L		101	85 - 115

Lab Sample ID: LCS 550-276185/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276736 — **Prep Batch: 276185**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.101		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-276185/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0919	D1	mg/L		92	85 - 115	1	20
Arsenic	0.100	0.0992	D1	mg/L		99	85 - 115	2	20
Barium	0.100	0.106	D1	mg/L		106	85 - 115	5	20
Cadmium	0.100	0.0982	D1	mg/L		98	85 - 115	1	20
Chromium	0.100	0.102	D1	mg/L		102	85 - 115	3	20
Cobalt	0.100	0.101	D1	mg/L		101	85 - 115	2	20
Lead	0.100	0.0934	D1	mg/L		93	85 - 115	3	20
Molybdenum	0.100	0.0980	D1	mg/L		98	85 - 115	1	20
Selenium	0.100	0.101	D1	mg/L		101	85 - 115	0	20

Lab Sample ID: LCSD 550-276185/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276736 — **Prep Batch: 276185**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.100	0.102		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0020	D1	0.100	0.0948	D1	mg/L		95	70 - 130
Arsenic	<0.0010	D1	0.100	0.107	D1	mg/L		107	70 - 130
Barium	0.015	D1	0.100	0.122	D1	mg/L		107	70 - 130
Cadmium	0.00022	D1	0.100	0.0949	D1	mg/L		95	70 - 130
Chromium	<0.0020	D1	0.100	0.0988	D1	mg/L		99	70 - 130
Cobalt	0.0068	D1	0.100	0.102	D1	mg/L		95	70 - 130
Lead	<0.0010	D1	0.100	0.0881	D1	mg/L		88	70 - 130
Molybdenum	0.0020	D1	0.100	0.106	D1	mg/L		104	70 - 130
Selenium	0.070	D1	0.100	0.192	D1	mg/L		122	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276736 — **Prep Batch: 276185**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.0010	D1	0.100	0.0960		mg/L		95	70 - 130

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276682 — **Prep Batch: 276185**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0020	D1	0.100	0.0977	D1	mg/L		98	70 - 130	3	20
Arsenic	<0.0010	D1	0.100	0.110	D1	mg/L		110	70 - 130	2	20
Barium	0.015	D1	0.100	0.127	D1	mg/L		111	70 - 130	4	20
Cadmium	0.00022	D1	0.100	0.0972	D1	mg/L		97	70 - 130	2	20
Chromium	<0.0020	D1	0.100	0.103	D1	mg/L		103	70 - 130	4	20
Cobalt	0.0068	D1	0.100	0.106	D1	mg/L		99	70 - 130	4	20
Lead	<0.0010	D1	0.100	0.0943	D1	mg/L		94	70 - 130	7	20
Molybdenum	0.0020	D1	0.100	0.108	D1	mg/L		106	70 - 130	1	20
Selenium	0.070	D1	0.100	0.200	D1	mg/L		130	70 - 130	4	20

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276736 — **Prep Batch: 276185**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.0010	D1	0.100	0.0886		mg/L		88	70 - 130	8	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-275434/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275473 — **Prep Batch: 275434**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020		mg/L		05/27/22 14:58	05/27/22 18:40	1

Lab Sample ID: LCS 550-275434/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275473 — **Prep Batch: 275434**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hg			0.00500	0.00451		mg/L		90	85 - 115

Lab Sample ID: LCSD 550-275434/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275473 — **Prep Batch: 275434**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00454		mg/L		91	85 - 115	1	20

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-184630-10 MS — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275473 — **Prep Batch: 275434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hg	<0.00020		0.00500	0.00498		mg/L		100	70 - 130

Lab Sample ID: 550-184630-10 MSD — **Client Sample ID: FC-CCR-MW84-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275473 — **Prep Batch: 275434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	<0.00020		0.00500	0.00519		mg/L		104	70 - 130	4	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275274/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275274/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids			1000	986		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-275274/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	970		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-184630-1 DU — **Client Sample ID: FC-CCR-MW66-05222**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	17000	D2		17100	D2	mg/L				1	10

Lab Sample ID: 550-184630-4 DU — **Client Sample ID: FC-CCR-MW69-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	8300	D2		8170	D2	mg/L				2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-275704/16 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275704

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.978		SU		99.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275704/28 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275704

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.989		SU		99.8	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275704/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275704

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.981		SU		99.7	98.5 - 101.5		

Lab Sample ID: 550-184617-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275704

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	10.7	H5		10.79	H5	SU				0.4	5
Temperature	21.2	H5		21.20	H5	Degrees C				0	

Lab Sample ID: 550-184630-3 DU — **Client Sample ID: FC-CCR-MW68-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275704

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.47	H5		7.487	H5	SU				0.2	5
Temperature	20.6	H5		20.70	H5	Degrees C				0.5	

Lab Sample ID: LCSSRM 550-275986/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.907		SU		98.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275986/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.896		SU		98.5	98.5 - 101.5		

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-184630-13 DU
Matrix: Water
Analysis Batch: 275986

Client Sample ID: FC-CCR-FD02-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.31	H5		7.241	H5	SU				1	5
Temperature	10.7	H5		10.30	H5	Degrees C				4	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

HPLC/IC

Analysis Batch: 275348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	300.0	
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	300.0	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	300.0	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	300.0	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	300.0	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	300.0	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	300.0	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	300.0	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	300.0	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	300.0	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	300.0	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	300.0	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	300.0	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	300.0	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	300.0	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	300.0	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	300.0	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	300.0	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	300.0	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	300.0	
MB 550-275348/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275348/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275348/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	300.0	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	300.0	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	300.0	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	300.0	

Analysis Batch: 275349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	300.0	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	300.0	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	300.0	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	300.0	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	300.0	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	300.0	
MB 550-275349/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275349/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275349/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184633-A-3 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-184633-A-3 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 275218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.7	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.7	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.7	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.7	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 275218 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.7	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.7	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.7	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.7	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.7	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.7	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.7	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.7	
MB 550-275218/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275218/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275218/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.7	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.7	

Prep Batch: 275434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	245.1	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	245.1	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	245.1	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	245.1	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	245.1	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	245.1	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	245.1	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	245.1	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	245.1	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	245.1	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	245.1	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	245.1	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	245.1	
MB 550-275434/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-275434/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-275434/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	245.1	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	245.1	

Analysis Batch: 275473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	245.1	275434
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	245.1	275434
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	245.1	275434
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	245.1	275434
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	245.1	275434
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	245.1	275434
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	245.1	275434
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	245.1	275434
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	245.1	275434
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	245.1	275434
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	245.1	275434
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	245.1	275434
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	245.1	275434
MB 550-275434/1-A	Method Blank	Total/NA	Water	245.1	275434

Metals (Continued)

Analysis Batch: 275473 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-275434/2-A	Lab Control Sample	Total/NA	Water	245.1	275434
LCSD 550-275434/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	275434
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	245.1	275434
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	245.1	275434

Analysis Batch: 275777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.7 Rev 4.4	275218
MB 550-275218/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275218
LCS 550-275218/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275218
LCSD 550-275218/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	275218

Analysis Batch: 275996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.7 Rev 4.4	275218

Prep Batch: 276185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.8	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.8	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.8	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.8	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.8	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.8	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.8	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.8	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.8	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.8	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.8	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.8	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.8	
MB 550-276185/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-276185/2-A	Lab Control Sample	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 276185 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-276185/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.8	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.8	

Analysis Batch: 276682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.8 LL	276185
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.8 LL	276185
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.8 LL	276185
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.8 LL	276185
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.8 LL	276185
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.8 LL	276185
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.8 LL	276185
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.8 LL	276185
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.8 LL	276185
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.8 LL	276185
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.8 LL	276185
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.8 LL	276185
MB 550-276185/1-A	Method Blank	Total/NA	Water	200.8 LL	276185
LCS 550-276185/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276185
LCSD 550-276185/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276185
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185

Analysis Batch: 276736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.8 LL	276185
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.8 LL	276185
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.8 LL	276185
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.8 LL	276185
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185
MB 550-276185/1-A	Method Blank	Total/NA	Water	200.8 LL	276185
LCS 550-276185/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276185
LCSD 550-276185/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276185
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.8 LL	276185

Analysis Batch: 276810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.8 LL	276185
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.8 LL	276185
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.8 LL	276185
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.8 LL	276185
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.8 LL	276185
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.8 LL	276185
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.8 LL	276185
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.8 LL	276185

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Metals

Prep Batch: 577339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.7	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.7	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.7	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.7	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.7	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.7	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.7	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.7	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.7	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.7	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.7	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.7	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.7	
MB 280-577339/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577339/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.7	
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.7	

Analysis Batch: 577704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	200.7 Rev 4.4	577339
MB 280-577339/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577339
LCS 280-577339/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-10 MS	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184630-10 MSD	FC-CCR-MW84-0522	Total/NA	Water	200.7 Rev 4.4	577339

General Chemistry

Analysis Batch: 275274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	SM 2540C	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	SM 2540C	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	SM 2540C	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	SM 2540C	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	SM 2540C	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	SM 2540C	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	SM 2540C	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	SM 2540C	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 275274 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	SM 2540C	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	SM 2540C	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	SM 2540C	
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	SM 2540C	
MB 550-275274/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275274/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275274/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184630-1 DU	FC-CCR-MW66-05222	Total/NA	Water	SM 2540C	
550-184630-4 DU	FC-CCR-MW69-0522	Total/NA	Water	SM 2540C	

Analysis Batch: 275704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-1	FC-CCR-MW66-05222	Total/NA	Water	SM 4500 H+ B	
550-184630-2	FC-CCR-MW67-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-3	FC-CCR-MW68-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-4	FC-CCR-MW69-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-5	FC-CCR-MW70-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-6	FC-CCR-MW71-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-7	FC-CCR-MW72-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-8	FC-CCR-MW73-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-9	FC-CCR-MW83-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-10	FC-CCR-MW84-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-11	FC-CCR-FD01-0522	Total/NA	Water	SM 4500 H+ B	
550-184630-12	FC-CCR-MW86-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275704/16	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275704/28	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275704/4	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184617-A-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-184630-3 DU	FC-CCR-MW68-0522	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 275986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184630-13	FC-CCR-FD02-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184630-13 DU	FC-CCR-FD02-0522	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW66-05222

Lab Sample ID: 550-184630-1
Matrix: Water
Date Collected: 05/20/22 16:48
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 16:51	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 17:46	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 14:58	MGM	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275996	06/02/22 21:52	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 03:55	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:18	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276736	06/13/22 12:46	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 18:52	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:00	CXK	TAL PHX

Client Sample ID: FC-CCR-MW67-0522

Lab Sample ID: 550-184630-2
Matrix: Water
Date Collected: 05/21/22 11:45
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 17:10	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 18:05	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:01	MGM	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275996	06/02/22 21:54	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 03:59	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:20	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276736	06/13/22 12:48	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 18:54	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:02	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW68-0522

Lab Sample ID: 550-184630-3
Matrix: Water
Date Collected: 05/21/22 10:45
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 17:28	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 18:23	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:03	MGM	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275996	06/02/22 21:57	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:03	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:22	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276736	06/13/22 12:50	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 18:56	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:06	CXK	TAL PHX

Client Sample ID: FC-CCR-MW69-0522

Lab Sample ID: 550-184630-4
Matrix: Water
Date Collected: 05/21/22 09:48
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 19:55	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 21:09	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:06	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:07	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:24	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276736	06/13/22 12:52	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 18:58	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:13	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW70-0522

Lab Sample ID: 550-184630-5
Date Collected: 05/20/22 11:30
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 20:14	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 21:27	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:08	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:11	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:31	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:43	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:00	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:16	CXK	TAL PHX

Client Sample ID: FC-CCR-MW71-0522

Lab Sample ID: 550-184630-6
Date Collected: 05/21/22 15:26
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 20:32	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 21:46	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:11	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:15	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:33	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:45	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:02	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:19	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW72-0522

Lab Sample ID: 550-184630-7
Date Collected: 05/22/22 09:38
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/26/22 20:50	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/26/22 22:04	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:14	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:19	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:35	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:47	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:04	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:22	CXK	TAL PHX

Client Sample ID: FC-CCR-MW73-0522

Lab Sample ID: 550-184630-8
Date Collected: 05/22/22 10:32
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/27/22 01:08	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/27/22 01:45	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:16	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:23	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:37	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:49	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:06	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:26	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW83-0522

Lab Sample ID: 550-184630-9
Date Collected: 05/21/22 13:55
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/27/22 01:26	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/27/22 02:03	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:19	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:43	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:39	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:51	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:08	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:29	CXK	TAL PHX

Client Sample ID: FC-CCR-MW84-0522

Lab Sample ID: 550-184630-10
Date Collected: 05/21/22 12:36
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275348	05/27/22 03:17	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275348	05/27/22 04:12	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 14:55	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 04:47	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:16	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276736	06/13/22 12:44	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 18:50	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:32	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD01-0522

Lab Sample ID: 550-184630-11
Date Collected: 05/21/22 22:00
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275349	05/27/22 00:51	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275349	05/27/22 02:15	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:27	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 05:04	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:41	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:53	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:14	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:35	CXK	TAL PHX

Client Sample ID: FC-CCR-MW86-0522

Lab Sample ID: 550-184630-12
Date Collected: 05/20/22 16:00
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275349	05/27/22 01:19	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275349	05/27/22 02:43	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:29	MGM	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275996	06/02/22 21:59	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 05:08	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:43	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:55	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:16	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 14:39	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD02-0522

Date Collected: 05/20/22 23:00
Date Received: 05/25/22 14:00

Lab Sample ID: 550-184630-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275349	05/27/22 01:47	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275349	05/27/22 03:11	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:32	MGM	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275996	06/02/22 22:02	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577704	06/10/22 05:12	MAB	TAL DEN
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276682	06/09/22 19:45	ARE	TAL PHX
Total/NA	Prep	200.8			276185	06/07/22 10:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276810	06/14/22 10:58	ARE	TAL PHX
Total/NA	Prep	245.1			275434	05/27/22 14:58	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275473	05/27/22 19:18	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:11	CXK	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: APS - Four Corners CCR

Job ID: 550-184630-1
SDG: APS Four Corners Power Plant (URS)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

184630

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 2 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			
	☑ 2 weeks			
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (URS)	☐ 2 days			
PO #: 100617121	☐ 1 day			550-184630 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
FC-CCR-MW66-0522 -01	5/20/2022	16:48	G	W	2	N	N	X	X	X	X	X	X	Low Flow
FC-CCR-MW67-0522 -02	5/21/2022	11:45	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW68-0522 -03	5/21/2022	10:45	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW69-0522 -04	5/21/2022	9:48	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW70-0522 -05	5/20/2022	11:30	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW71-0522 -06	5/21/2022	15:26	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW72-0522 -07	5/22/2022	9:38	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW73-0522 -08	5/22/2022	10:32	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW83-0522 -09	5/21/2022	13:55	G	W	2	N	N	X	X	X	X	X	X	"
FC-CCR-MW84-0522 -10	5/21/2022	12:36	G	W	6	N	Y	X	X	X	X	X	X	Low Flow, MS + MSD included
FC-CCR-FD01-0522 -11	5/21/2022	22:00	G	W	2	N	N	X	X	X	X	X	X	"
								1	4	4	1	1	4	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C, 0.2°C, 0.3°C IVE PC

Custody Seals Intact: ☐ Yes ☑ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	DOJ	05/25/22 07:00	Francisco Hurtado	American Hotshot	6-25-22 7:35
Relinquished by:	Company: American Hotshot	Date/Time: 5-25-22 14:00	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EETA DHY	Date/Time: 5-25-22 1400

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

6/16/2022 (Rev. 1)

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

184630

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

6/16/2022 (Rev. 1)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 2 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			Walk-in Client:
	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (URS)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
FC-CCR-MW86-0522 -12	5/20/2022	16:00	G	W	2	N	N	X	X	X	X	X	X	Low Flow
FC-CCR-FD02-0522 -13	5/20/2022	23:00	G	W	2	N	N	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____							1	4	4	1	1	4		

Possible Hazard Identification:
Comments Section if the lab is to dispose of the sample.
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.3°C, 0.3°C, 0.3°C ICE PC

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	[illegible]	05/25/22 [illegible]	[illegible] Hurtado	American Hotshot	6-25-22 7:35
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	American Hotshot	5-25-22 14:00			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
			[illegible]	TEMA PHX	5-26-22 1400

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34095.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184630-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/8/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Four Corners CCR	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW66-05222 (550-184630-1)	5/20/22	16:48 Arizona		Water			X	1	AZ Sample
FC-CCR-MW67-0522 (550-184630-2)	5/21/22	11:45 Arizona		Water			X	1	AZ Sample
FC-CCR-MW68-0522 (550-184630-3)	5/21/22	10:45 Arizona		Water			X	1	AZ Sample
FC-CCR-MW69-0522 (550-184630-4)	5/21/22	09:48 Arizona		Water			X	1	AZ Sample
FC-CCR-MW70-0522 (550-184630-5)	5/20/22	11:30 Arizona		Water			X	1	AZ Sample
FC-CCR-MW71-0522 (550-184630-6)	5/21/22	15:26 Arizona		Water			X	1	AZ Sample
FC-CCR-MW72-0522 (550-184630-7)	5/22/22	09:38 Arizona		Water			X	1	AZ Sample
FC-CCR-MW73-0522 (550-184630-8)	5/22/22	10:32 Arizona		Water			X	1	AZ Sample
FC-CCR-MW83-0522 (550-184630-9)	5/21/22	13:55 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 5-20-22 1500	Company: FED Dhx	Received by: FED EX	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: [signature]	Date/Time: 5/27/22 1000	Company: ETADEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.7 KB CF+0.1		

Ver: 06/08/2021

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34095.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184630-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/8/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Four Corners CCR	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW84-0522 (550-184630-10)	5/21/22	12:36 Arizona		Water			X	1	AZ Sample
FC-CCR-MW84-0522 (550-184630-10MS)	5/21/22	12:36 Arizona	MS	Water			X	1	AZ Sample
FC-CCR-MW84-0522 (550-184630-10MSD)	5/21/22	12:36 Arizona	MSD	Water			X	1	AZ Sample
FC-CCR-FD01-0522 (550-184630-11)	5/21/22	22:00 Arizona		Water			X	1	AZ Sample
FC-CCR-MW86-0522 (550-184630-12)	5/20/22	16:00 Arizona		Water			X	1	AZ Sample
FC-CCR-FD02-0522 (550-184630-13)	5/20/22	23:00 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 5-21-22 1500	Company: FEDEX	Received by: FED EX	Date/Time:	Company
Relinquished by: FedEX	Date/Time:	Company	Received by: [signature]	Date/Time: 5/23/22 1000	Company: EXDEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.7 KD-LFXO.1		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184630-1
SDG Number: APS Four Corners Power Plant (URS)

Login Number: 184630
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184630-1
SDG Number: APS Four Corners Power Plant (URS)

Login Number: 184630
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 05/28/22 09:45 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184633-1
Laboratory SDG: APS Four Corners Power Plant (CWTP)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/17/2022 4:18:10 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184633-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184633-1

Comments
No additional comments.

Receipt
The samples were received on 5/25/2022 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.2º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The instrument blank for analytical batch 280-577704 contained Li greater than one-half the reporting limit (RL) and were not re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184633-1	FC-CCR-MW62-0522	Water	05/20/22 14:20	05/25/22 14:00
550-184633-2	FC-CCR-MW63-0522	Water	05/20/22 13:22	05/25/22 14:00
550-184633-3	FC-CCR-MW64-0522	Water	05/20/22 12:26	05/25/22 14:00
550-184633-4	FC-CCR-MW65-0522	Water	05/20/22 15:06	05/25/22 14:00
550-184633-5	FC-CCR-SW1-0522	Water	05/24/22 15:33	05/25/22 14:00
550-184633-6	FC-CCR-SW2-0522	Water	05/24/22 16:55	05/25/22 14:00
550-184633-7	FC-CCR-SW3-0522	Water	05/24/22 17:10	05/25/22 14:00
550-184633-8	FC-CCR-FD08-0522	Water	05/24/22 15:33	05/25/22 14:00

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW62-0522 — Lab Sample ID: 550-184633-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	180	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.4	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3400	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.13		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.8		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00073		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.015		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0014		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0027		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0020		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	6000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.45	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.0	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-0522 — Lab Sample ID: 550-184633-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	93	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	2.1	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	1500	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.058		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.83		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	310		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.015	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0029	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0013	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	2500		20		mg/L	1		SM 2540C	Total/NA
pH	7.40	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-0522 — Lab Sample ID: 550-184633-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	52	D1	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.4	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	290	D2	10		mg/L	5		300.0	Total/NA
Lithium	0.027		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.53		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	77		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.035	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0011	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0049	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	850		20		mg/L	1		SM 2540C	Total/NA
pH	7.90	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-0522 — Lab Sample ID: 550-184633-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	140	D2	4.0		mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW65-0522 (Continued) — Lab Sample ID: 550-184633-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	1.5	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	980	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.081		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.85		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	200		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.042	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0029	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0066	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	1900		20	mg/L	1		SM 2540C	Total/NA
pH	7.73	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.0	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW1-0522 — Lab Sample ID: 550-184633-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	46	D2	4.0	mg/L	2		300.0	Total/NA
Fluoride	0.80	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	390	D2	4.0	mg/L	2		300.0	Total/NA
Lithium	0.086		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.32		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	78		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0015	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Barium	0.18	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0061	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	770		20	mg/L	1		SM 2540C	Total/NA
pH	8.28	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.80	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW2-0522 — Lab Sample ID: 550-184633-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48	D2	4.0	mg/L	2		300.0	Total/NA
Fluoride	0.83	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	400	D2	4.0	mg/L	2		300.0	Total/NA
Lithium	0.090		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.33		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	82		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0022	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Barium	0.21	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0065	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	800		20	mg/L	1		SM 2540C	Total/NA
pH	8.15	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.50	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW3-0522 — Lab Sample ID: 550-184633-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	46	D2	4.0	mg/L	2		300.0	Total/NA
Fluoride	0.80	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	390	D2	4.0	mg/L	2		300.0	Total/NA
Lithium	0.086		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.31		0.050	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-SW3-0522 (Continued) — Lab Sample ID: 550-184633-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Calcium	77		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.18	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0061	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	770		20		mg/L	1		SM 2540C	Total/NA
pH	8.23	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	9.60	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD08-0522 — Lab Sample ID: 550-184633-8

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	46	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	0.81	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	390	D2	4.0		mg/L	2		300.0	Total/NA
Lithium	0.087		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.31		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	79		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.18	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0061	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	750		20		mg/L	1		SM 2540C	Total/NA
pH	8.31	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW62-0522

Lab Sample ID: 550-184633-1
Date Collected: 05/20/22 14:20
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180	D2	4.0	mg/L			05/26/22 02:15	2
Fluoride	1.4	D1	0.80	mg/L			05/26/22 02:15	2
Sulfate	3400	D2	400	mg/L			05/26/22 03:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:45	06/01/22 14:35	1
Lithium	0.13		0.020	mg/L		06/08/22 06:59	06/10/22 21:36	1
Boron	1.8		0.050	mg/L		05/26/22 06:45	06/01/22 14:35	1
Calcium	500		2.0	mg/L		05/26/22 06:45	06/01/22 14:35	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:30	1
Arsenic	0.00073		0.00050	mg/L		05/26/22 09:25	06/02/22 17:30	1
Barium	0.015		0.00050	mg/L		05/26/22 09:25	06/07/22 11:12	1
Cadmium	<0.00010		0.00010	mg/L		05/26/22 09:25	06/02/22 17:30	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:30	1
Cobalt	0.0014		0.00050	mg/L		05/26/22 09:25	06/02/22 17:30	1
Lead	<0.00050		0.00050	mg/L		05/26/22 09:25	06/02/22 17:30	1
Molybdenum	0.0027		0.00050	mg/L		05/26/22 09:25	06/02/22 17:30	1
Selenium	0.0020		0.00050	mg/L		05/26/22 09:25	06/06/22 16:03	1
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:31	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6000	D2	100	mg/L			05/26/22 10:53	1
pH	7.45	H5	1.68	SU			06/03/22 13:16	1
Temperature	10.0	H5	0.100	Degrees C			06/03/22 13:16	1

Client Sample ID: FC-CCR-MW63-0522

Lab Sample ID: 550-184633-2
Date Collected: 05/20/22 13:22
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93	D2	4.0	mg/L			05/26/22 02:43	2
Fluoride	2.1	D1	0.80	mg/L			05/26/22 02:43	2
Sulfate	1500	D2	400	mg/L			05/26/22 03:38	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:34	1
Lithium	0.058		0.020	mg/L		06/08/22 06:59	06/10/22 21:40	1
Boron	0.83		0.050	mg/L		05/26/22 06:51	06/01/22 15:34	1
Calcium	310		2.0	mg/L		05/26/22 06:51	06/01/22 15:34	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW63-0522

Lab Sample ID: 550-184633-2
Date Collected: 05/20/22 13:22
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:17	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:17	2
Barium	**0.015**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:17	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:17	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:17	2
Cobalt	**0.0012**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:17	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:17	2
Molybdenum	**0.0029**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:17	2
Selenium	**0.0013**	**D1**	0.0010	mg/L		06/07/22 10:23	06/14/22 11:33	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:33	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:10	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2500**		20	mg/L			05/26/22 10:53	1
pH	**7.40**	**H5**	1.68	SU			06/03/22 13:19	1
Temperature	**10.7**	**H5**	0.100	Degrees C			06/03/22 13:19	1

Client Sample ID: FC-CCR-MW64-0522

Lab Sample ID: 550-184633-3
Date Collected: 05/20/22 12:26
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**52**	**D1**	4.0	mg/L			05/25/22 20:41	2
Fluoride	**1.4**	**D1**	0.80	mg/L			05/25/22 20:41	2
Sulfate	**290**	**D2**	10	mg/L			05/26/22 13:40	5

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:37	1
Lithium	**0.027**		0.020	mg/L		06/08/22 06:59	06/10/22 21:44	1
Boron	**0.53**		0.050	mg/L		05/26/22 06:51	06/01/22 15:37	1
Calcium	**77**		2.0	mg/L		05/26/22 06:51	06/01/22 15:37	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:19	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:19	2
Barium	**0.035**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:19	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:19	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:19	2
Cobalt	**0.0011**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:19	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:19	2
Molybdenum	**0.0049**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:19	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:35	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:35	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW64-0522

Lab Sample ID: 550-184633-3
Date Collected: 05/20/22 12:26
Matrix: Water
Date Received: 05/25/22 14:00

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:12	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	850		20	mg/L			05/26/22 10:53	1
pH	7.90	H5	1.68	SU			06/03/22 13:21	1
Temperature	11.5	H5	0.100	Degrees C			06/03/22 13:21	1

Client Sample ID: FC-CCR-MW65-0522

Lab Sample ID: 550-184633-4
Date Collected: 05/20/22 15:06
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140	D2	4.0	mg/L			05/26/22 00:51	2
Fluoride	1.5	D1	0.80	mg/L			05/26/22 00:51	2
Sulfate	980	D2	400	mg/L			05/26/22 03:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:40	1
Lithium	0.081		0.020	mg/L		06/08/22 06:59	06/10/22 21:48	1
Boron	0.85		0.050	mg/L		05/26/22 06:51	06/01/22 15:40	1
Calcium	200		2.0	mg/L		05/26/22 06:51	06/01/22 15:40	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:21	2
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:21	2
Barium	0.042	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:21	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:21	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:21	2
Cobalt	0.0029	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:21	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:21	2
Molybdenum	0.0066	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:21	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:37	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:37	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		20	mg/L			05/26/22 10:53	1
pH	7.73	H5	1.68	SU			06/03/22 13:24	1
Temperature	11.0	H5	0.100	Degrees C			06/03/22 13:24	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW1-0522

Lab Sample ID: 550-184633-5
Date Collected: 05/24/22 15:33
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46	D2	4.0	mg/L			05/26/22 01:19	2
Fluoride	0.80	D1	0.80	mg/L			05/26/22 01:19	2
Sulfate	390	D2	4.0	mg/L			05/26/22 01:19	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:42	1
Lithium	0.086		0.020	mg/L		06/08/22 06:59	06/10/22 21:52	1
Boron	0.32		0.050	mg/L		05/26/22 06:51	06/01/22 15:42	1
Calcium	78		2.0	mg/L		05/26/22 06:51	06/01/22 15:42	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:23	2
Arsenic	0.0015	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:23	2
Barium	0.18	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:23	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:23	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:23	2
Cobalt	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:23	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:23	2
Molybdenum	0.0061	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:23	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:39	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:39	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:16	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	770		20	mg/L			05/26/22 12:23	1
pH	8.28	H5	1.68	SU			06/03/22 13:28	1
Temperature	9.80	H5	0.100	Degrees C			06/03/22 13:28	1

Client Sample ID: FC-CCR-SW2-0522

Lab Sample ID: 550-184633-6
Date Collected: 05/24/22 16:55
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48	D2	4.0	mg/L			05/26/22 01:47	2
Fluoride	0.83	D1	0.80	mg/L			05/26/22 01:47	2
Sulfate	400	D2	4.0	mg/L			05/26/22 01:47	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:45	1
Lithium	0.090		0.020	mg/L		06/08/22 06:59	06/10/22 21:56	1
Boron	0.33		0.050	mg/L		05/26/22 06:51	06/01/22 15:45	1
Calcium	82		2.0	mg/L		05/26/22 06:51	06/01/22 15:45	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW2-0522

Lab Sample ID: 550-184633-6
Date Collected: 05/24/22 16:55
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:25	2
Arsenic	**0.0022**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:25	2
Barium	**0.21**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:25	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:25	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:25	2
Cobalt	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:25	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:25	2
Molybdenum	**0.0065**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:25	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:42	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:42	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:18	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**800**		20	mg/L			05/26/22 12:23	1
pH	**8.15**	**H5**	1.68	SU			06/03/22 13:30	1
Temperature	**9.50**	**H5**	0.100	Degrees C			06/03/22 13:30	1

Client Sample ID: FC-CCR-SW3-0522

Lab Sample ID: 550-184633-7
Date Collected: 05/24/22 17:10
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**46**	**D2**	4.0	mg/L			05/26/22 02:15	2
Fluoride	**0.80**	**D1**	0.80	mg/L			05/26/22 02:15	2
Sulfate	**390**	**D2**	4.0	mg/L			05/26/22 02:15	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:47	1
Lithium	**0.086**		0.020	mg/L		06/08/22 06:59	06/11/22 01:38	1
Boron	**0.31**		0.050	mg/L		05/26/22 06:51	06/01/22 15:47	1
Calcium	**77**		2.0	mg/L		05/26/22 06:51	06/01/22 15:47	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:27	2
Arsenic	**0.0016**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:27	2
Barium	**0.18**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:27	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:27	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:27	2
Cobalt	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:27	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:27	2
Molybdenum	**0.0061**	**D1**	0.0010	mg/L		06/07/22 10:23	06/09/22 20:27	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:44	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:44	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW3-0522

Lab Sample ID: 550-184633-7
Date Collected: 05/24/22 17:10
Matrix: Water
Date Received: 05/25/22 14:00

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	770		20	mg/L			05/26/22 12:23	1
pH	8.23	H5	1.68	SU			06/03/22 13:32	1
Temperature	9.60	H5	0.100	Degrees C			06/03/22 13:32	1

Client Sample ID: FC-CCR-FD08-0522

Lab Sample ID: 550-184633-8
Date Collected: 05/24/22 15:33
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46	D2	4.0	mg/L			05/26/22 02:43	2
Fluoride	0.81	D1	0.80	mg/L			05/26/22 02:43	2
Sulfate	390	D2	4.0	mg/L			05/26/22 02:43	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:51	06/01/22 15:50	1
Lithium	0.087		0.020	mg/L		06/08/22 06:59	06/11/22 01:42	1
Boron	0.31		0.050	mg/L		05/26/22 06:51	06/01/22 15:50	1
Calcium	79		2.0	mg/L		05/26/22 06:51	06/01/22 15:50	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:29	2
Arsenic	0.0016	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:29	2
Barium	0.18	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:29	2
Cadmium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/09/22 20:29	2
Chromium	<0.0020	D1	0.0020	mg/L		06/07/22 10:23	06/09/22 20:29	2
Cobalt	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:29	2
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:29	2
Molybdenum	0.0061	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:29	2
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/14/22 11:46	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:23	06/14/22 11:46	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:22	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750		20	mg/L			05/26/22 12:23	1
pH	8.31	H5	1.68	SU			06/03/22 13:34	1
Temperature	10.7	H5	0.100	Degrees C			06/03/22 13:34	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275203/2
Matrix: Water
Analysis Batch: 275203

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/25/22 10:43	1
Fluoride	<0.40		0.40		mg/L			05/25/22 10:43	1
Sulfate	<2.0		2.0		mg/L			05/25/22 10:43	1

Lab Sample ID: LCS 550-275203/5
Matrix: Water
Analysis Batch: 275203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	3.99		mg/L		100	90 - 110		
Sulfate			20.0	20.5		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-275203/6
Matrix: Water
Analysis Batch: 275203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride			4.00	3.99		mg/L		100	90 - 110	0	20
Sulfate			20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184582-A-1 MS
Matrix: Water
Analysis Batch: 275203

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	12		20.0	34.1		mg/L		110	80 - 120		
Fluoride	<0.40		4.00	4.29		mg/L		103	80 - 120		
Sulfate	6.0		20.0	27.4		mg/L		107	80 - 120		

Lab Sample ID: 550-184582-A-1 MSD
Matrix: Water
Analysis Batch: 275203

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	12		20.0	34.3		mg/L		111	80 - 120	0	20
Fluoride	<0.40		4.00	4.33		mg/L		104	80 - 120	1	20
Sulfate	6.0		20.0	27.6		mg/L		108	80 - 120	1	20

Lab Sample ID: MB 550-275204/2
Matrix: Water
Analysis Batch: 275204

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/25/22 11:21	1
Fluoride	<0.40		0.40		mg/L			05/25/22 11:21	1
Sulfate	<2.0		2.0		mg/L			05/25/22 11:21	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-275204/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275204

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.10		mg/L		103	90 - 110		
Sulfate			20.0	20.5		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-275204/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275204

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.11		mg/L		103	90 - 110	0	20
Sulfate			20.0	20.3		mg/L		102	90 - 110	1	20

Lab Sample ID: 550-184570-A-5 MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275204

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	650	D2	200	863	D2	mg/L		106	80 - 120		
Fluoride	<4.0	D1	40.0	42.3	D1	mg/L		106	80 - 120		
Sulfate	290	D2	200	504	D2	mg/L		106	80 - 120		

Lab Sample ID: 550-184570-A-5 MSD ^10 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275204

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	650	D2	200	865	D2	mg/L		107	80 - 120	0	20
Fluoride	<4.0	D1	40.0	41.7	D1	mg/L		104	80 - 120	2	20
Sulfate	290	D2	200	506	D2	mg/L		107	80 - 120	0	20

Lab Sample ID: MB 550-275205/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275205

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/25/22 10:53	1
Fluoride	<0.40		0.40		mg/L			05/25/22 10:53	1
Sulfate	<2.0		2.0		mg/L			05/25/22 10:53	1

Lab Sample ID: LCS 550-275205/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275205

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.00		mg/L		100	90 - 110		
Sulfate			20.0	20.2		mg/L		101	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-275205/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275205

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.01		mg/L		100	90 - 110	0	20
Sulfate			20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-184581-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275205

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	8.6		20.0	30.9		mg/L		112	80 - 120		
Fluoride	<0.40		4.00	4.29		mg/L		103	80 - 120		
Sulfate	9.7		20.0	30.3		mg/L		103	80 - 120		

Lab Sample ID: 550-184581-B-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275205

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	8.6		20.0	31.2		mg/L		113	80 - 120	1	20
Fluoride	<0.40		4.00	4.33		mg/L		103	80 - 120	1	20
Sulfate	9.7		20.0	30.6		mg/L		104	80 - 120	1	20

Lab Sample ID: MB 550-275349/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/26/22 11:21	1
Fluoride	<0.40		0.40		mg/L			05/26/22 11:21	1
Sulfate	<2.0		2.0		mg/L			05/26/22 11:21	1

Lab Sample ID: LCS 550-275349/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	4.12		mg/L		103	90 - 110		
Sulfate			20.0	20.4		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-275349/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.12		mg/L		103	90 - 110	0	20
Sulfate			20.0	20.5		mg/L		103	90 - 110	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-184633-3 MS — **Client Sample ID: FC-CCR-MW64-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	290	D2	100	392	D2	mg/L		106	80 - 120

Lab Sample ID: 550-184633-3 MSD — **Client Sample ID: FC-CCR-MW64-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275349

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	<2.0	D1	20.0	22.4	D1	mg/L		105	80 - 120	NC	20
Sulfate	290	D2	100	391	D2	mg/L		105	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275217/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:45	06/01/22 13:40	1
Boron	<0.050		0.050	mg/L		05/26/22 06:45	06/01/22 13:40	1
Calcium	<2.0		2.0	mg/L		05/26/22 06:45	06/01/22 13:40	1

Lab Sample ID: LCS 550-275217/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.972		mg/L		97	85 - 115
Boron	1.00	0.967		mg/L		97	85 - 115
Calcium	21.0	19.5		mg/L		93	85 - 115

Lab Sample ID: LCSD 550-275217/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.01		mg/L		101	85 - 115	4	20
Boron	1.00	0.958		mg/L		96	85 - 115	1	20
Calcium	21.0	20.2		mg/L		96	85 - 115	4	20

Lab Sample ID: 550-184623-A-4-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	<0.0010		1.00	1.04		mg/L		104	70 - 130
Boron	16	M3	1.00	15.5	M3	mg/L		-25	70 - 130
Calcium	430	M3	21.0	423	M3	mg/L		-55	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184623-A-4-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010		1.00	1.06		mg/L		106	70 - 130	2	20
Boron	16	M3	1.00	15.8	M3	mg/L		3	70 - 130	2	20
Calcium	430	M3	21.0	437	M3	mg/L		11	70 - 130	3	20

Lab Sample ID: MB 550-275218/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 06:51	06/01/22 14:42	1
Boron	<0.050		0.050		mg/L		05/26/22 06:51	06/01/22 14:42	1
Calcium	<2.0		2.0		mg/L		05/26/22 06:51	06/01/22 14:42	1

Lab Sample ID: LCS 550-275218/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.00		mg/L		100	85 - 115
Boron	1.00	0.967		mg/L		97	85 - 115
Calcium	21.0	20.1		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-275218/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.990		mg/L		99	85 - 115	1	20
Boron	1.00	0.977		mg/L		98	85 - 115	1	20
Calcium	21.0	19.8		mg/L		94	85 - 115	1	20

Lab Sample ID: 550-184630-E-10-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	<0.0010		1.00	1.03		mg/L		103	70 - 130
Boron	77	M3	1.00	74.9	M3	mg/L		-247	70 - 130
Calcium	480	M3	21.0	466	M3	mg/L		-61	70 - 130

Lab Sample ID: 550-184630-E-10-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275777 — **Prep Batch: 275218**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010		1.00	1.15		mg/L		115	70 - 130	11	20
Boron	77	M3	1.00	74.8	M3	mg/L		-255	70 - 130	0	20
Calcium	480	M3	21.0	469	M3	mg/L		-44	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 280-577339/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577339**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/08/22 06:59	06/10/22 21:28	1

Lab Sample ID: LCS 280-577339/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577339**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	1.02		mg/L		102	90 - 112		

Lab Sample ID: 280-162942-A-3-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577339**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.021		1.00	1.02		mg/L		100	70 - 130		

Lab Sample ID: 280-162942-A-3-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577339**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.021		1.00	1.01		mg/L		99	70 - 130	1	20

Lab Sample ID: MB 280-577344/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/08/22 06:59	06/11/22 00:54	1

Lab Sample ID: LCS 280-577344/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	1.02		mg/L		102	90 - 112		

Lab Sample ID: LCSD 280-577344/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	1.02		mg/L		102	90 - 112	0	20

Lab Sample ID: 280-162601-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.055		1.00	1.06		mg/L		101	70 - 130		

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 280-162601-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.055		1.00	1.07		mg/L		101	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-275245/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Arsenic	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Cadmium	<0.00010		0.00010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Chromium	<0.0010		0.0010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Cobalt	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Lead	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Molybdenum	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1

Lab Sample ID: MB 550-275245/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276113 — **Prep Batch: 275245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.00050		0.00050		mg/L		05/26/22 09:25	06/06/22 15:36	1

Lab Sample ID: MB 550-275245/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.00050		0.00050		mg/L		05/26/22 09:25	06/07/22 10:45	1

Lab Sample ID: LCS 550-275245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0950		mg/L		95	85 - 115
Arsenic	0.100	0.0967		mg/L		97	85 - 115
Cadmium	0.100	0.0955		mg/L		96	85 - 115
Chromium	0.100	0.101		mg/L		101	85 - 115
Cobalt	0.100	0.0994		mg/L		99	85 - 115
Lead	0.100	0.0969		mg/L		97	85 - 115
Molybdenum	0.100	0.0961		mg/L		96	85 - 115

Lab Sample ID: LCS 550-275245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276113 — **Prep Batch: 275245**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.0965		mg/L		97	85 - 115

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: LCS 550-275245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.111		mg/L		111	85 - 115

Lab Sample ID: LCSD 550-275245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0983		mg/L		98	85 - 115	3	20
Arsenic	0.100	0.0985		mg/L		99	85 - 115	2	20
Cadmium	0.100	0.100		mg/L		100	85 - 115	5	20
Chromium	0.100	0.102		mg/L		102	85 - 115	0	20
Cobalt	0.100	0.101		mg/L		101	85 - 115	2	20
Lead	0.100	0.101		mg/L		101	85 - 115	4	20
Molybdenum	0.100	0.101		mg/L		101	85 - 115	5	20

Lab Sample ID: LCSD 550-275245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276113 — **Prep Batch: 275245**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.104		mg/L		104	85 - 115	8	20

Lab Sample ID: LCSD 550-275245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.100	0.112		mg/L		112	85 - 115	1	20

Lab Sample ID: 550-184623-B-4-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0010		0.100	0.0955		mg/L		95	70 - 130
Arsenic	0.00075		0.100	0.107		mg/L		107	70 - 130
Cadmium	0.00026		0.100	0.0887		mg/L		88	70 - 130
Chromium	0.0012		0.100	0.100		mg/L		99	70 - 130
Cobalt	0.088		0.100	0.189		mg/L		101	70 - 130
Lead	0.00059		0.100	0.0961		mg/L		96	70 - 130
Molybdenum	0.0047		0.100	0.106		mg/L		101	70 - 130

Lab Sample ID: 550-184623-B-4-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276113 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.0030		0.100	0.132		mg/L		129	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184623-B-4-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.016	R13 M1	0.100	0.176	M1	mg/L		160	70 - 130

Lab Sample ID: 550-184623-B-4-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0010		0.100	0.0974		mg/L		97	70 - 130	2	20
Arsenic	0.00075		0.100	0.108		mg/L		107	70 - 130	1	20
Cadmium	0.00026		0.100	0.0901		mg/L		90	70 - 130	2	20
Chromium	0.0012		0.100	0.0999		mg/L		99	70 - 130	1	20
Cobalt	0.088		0.100	0.188		mg/L		100	70 - 130	0	20
Lead	0.00059		0.100	0.0869		mg/L		86	70 - 130	10	20
Molybdenum	0.0047		0.100	0.107		mg/L		102	70 - 130	1	20

Lab Sample ID: 550-184623-B-4-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276113 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.0030		0.100	0.131		mg/L		128	70 - 130	1	20

Lab Sample ID: 550-184623-B-4-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.016	R13 M1	0.100	0.116	R13	mg/L		100	70 - 130	41	20

Lab Sample ID: MB 550-276186/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		06/07/22 10:23	06/09/22 19:52	1
Arsenic	<0.00050		0.00050	mg/L		06/07/22 10:23	06/09/22 19:52	1
Barium	<0.00050		0.00050	mg/L		06/07/22 10:23	06/09/22 19:52	1
Cadmium	<0.00010		0.00010	mg/L		06/07/22 10:23	06/09/22 19:52	1
Chromium	<0.0010		0.0010	mg/L		06/07/22 10:23	06/09/22 19:52	1
Cobalt	<0.00050		0.00050	mg/L		06/07/22 10:23	06/09/22 19:52	1
Lead	<0.00050		0.00050	mg/L		06/07/22 10:23	06/09/22 19:52	1
Molybdenum	<0.00050		0.00050	mg/L		06/07/22 10:23	06/09/22 19:52	1

Lab Sample ID: MB 550-276186/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.00050		0.00050	mg/L		06/07/22 10:23	06/14/22 11:06	1
Thallium	<0.00010		0.00010	mg/L		06/07/22 10:23	06/14/22 11:06	1

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: LCS 550-276186/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0881		mg/L		88	85 - 115
Arsenic	0.100	0.0954		mg/L		95	85 - 115
Barium	0.100	0.0985		mg/L		99	85 - 115
Cadmium	0.100	0.0942		mg/L		94	85 - 115
Chromium	0.100	0.0967		mg/L		97	85 - 115
Cobalt	0.100	0.0969		mg/L		97	85 - 115
Lead	0.100	0.0934		mg/L		93	85 - 115
Molybdenum	0.100	0.0950		mg/L		95	85 - 115

Lab Sample ID: LCS 550-276186/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.109		mg/L		109	85 - 115
Thallium	0.100	0.102		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-276186/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0960		mg/L		96	85 - 115	9	20
Arsenic	0.100	0.103		mg/L		103	85 - 115	7	20
Barium	0.100	0.109		mg/L		109	85 - 115	10	20
Cadmium	0.100	0.102		mg/L		102	85 - 115	8	20
Chromium	0.100	0.104		mg/L		104	85 - 115	7	20
Cobalt	0.100	0.105		mg/L		105	85 - 115	8	20
Lead	0.100	0.102		mg/L		102	85 - 115	8	20
Molybdenum	0.100	0.104		mg/L		104	85 - 115	9	20

Lab Sample ID: LCSD 550-276186/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.106		mg/L		106	85 - 115	3	20
Thallium	0.100	0.0996		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-184634-A-8-D MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276873 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.010		0.100	0.0937		mg/L		94	70 - 130
Barium	0.018		0.100	0.111		mg/L		93	70 - 130
Cadmium	<0.0010		0.100	0.0942		mg/L		94	70 - 130
Lead	<0.0050		0.100	0.0903		mg/L		90	70 - 130
Molybdenum	<0.0050		0.100	0.105		mg/L		102	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184634-A-8-D MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276873 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	<0.0010		0.100	0.0907		mg/L		90	70 - 130

Lab Sample ID: 550-184634-A-8-D MS ^4 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.0023	D1	0.100	0.124	D1	mg/L		122	70 - 130
Chromium	<0.0040	D1	0.100	0.116	D1	mg/L		114	70 - 130
Cobalt	0.0055	D1	0.100	0.114	D1	mg/L		108	70 - 130
Selenium	0.055	D1 M1	0.100	0.202	D1 M1	mg/L		146	70 - 130

Lab Sample ID: 550-184634-A-8-E MSD ^10 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276873 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.010		0.100	0.0952		mg/L		95	70 - 130	2	20
Barium	0.018		0.100	0.113		mg/L		95	70 - 130	2	20
Cadmium	<0.0010		0.100	0.0961		mg/L		96	70 - 130	2	20
Lead	<0.0050		0.100	0.0912		mg/L		91	70 - 130	1	20
Molybdenum	<0.0050		0.100	0.107		mg/L		104	70 - 130	2	20
Thallium	<0.0010		0.100	0.0899		mg/L		89	70 - 130	1	20

Lab Sample ID: 550-184634-A-8-E MSD ^4 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.0023	D1	0.100	0.129	D1	mg/L		126	70 - 130	3	20
Chromium	<0.0040	D1	0.100	0.122	D1	mg/L		119	70 - 130	5	20
Cobalt	0.0055	D1	0.100	0.116	D1	mg/L		111	70 - 130	2	20
Selenium	0.055	D1 M1	0.100	0.212	D1 M1	mg/L		157	70 - 130	5	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-275320/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020		mg/L		05/26/22 15:29	05/26/22 18:36	1

Lab Sample ID: LCS 550-275320/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hg			0.00500	0.00470		mg/L		94	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 550-275320/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00471		mg/L		94	85 - 115	0	20

Lab Sample ID: 550-184612-N-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg	<0.00020		0.00500	0.00535		mg/L		107	70 - 130		

Lab Sample ID: 550-184612-N-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	<0.00020		0.00500	0.00552		mg/L		110	70 - 130	3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275274/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275274/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	986		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-275274/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	970		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-184630-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	17000	D2		17100	D2	mg/L				1	10

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: MB 550-275298/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 12:23	1

Lab Sample ID: LCS 550-275298/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110		

Lab Sample ID: LCSD 550-275298/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	934		mg/L		93	90 - 110	7	10

Lab Sample ID: 550-184634-A-17 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000	D2		10100	D2	mg/L				0.3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-275986/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.907		SU		98.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275986/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.896		SU		98.5	98.5 - 101.5		

Lab Sample ID: 550-184630-A-13 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.31	H5		7.241	H5	SU				1	5
Temperature	10.7	H5		10.30	H5	Degrees C				4	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

HPLC/IC

Analysis Batch: 275203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	300.0	
MB 550-275203/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275203/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275203/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184582-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184582-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	300.0	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	300.0	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	300.0	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	300.0	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	300.0	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	300.0	
MB 550-275204/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275204/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275204/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184570-A-5 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-184570-A-5 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	300.0	
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	300.0	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	300.0	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	300.0	
MB 550-275205/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275205/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275205/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184581-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184581-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	300.0	
MB 550-275349/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275349/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275349/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184633-3 MS	FC-CCR-MW64-0522	Total/NA	Water	300.0	
550-184633-3 MSD	FC-CCR-MW64-0522	Total/NA	Water	300.0	

Metals

Prep Batch: 275217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.7	
MB 550-275217/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275217/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275217/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184623-A-4-A MS	Matrix Spike	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 275217 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-A-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 275218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.7	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.7	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.7	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.7	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.7	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.7	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.7	
MB 550-275218/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275218/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275218/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184630-E-10-A MS	Matrix Spike	Total/NA	Water	200.7	
550-184630-E-10-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 275245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8	
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184623-B-4-A MS	Matrix Spike	Total/NA	Water	200.8	
550-184623-B-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 275320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	245.1	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	245.1	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	245.1	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	245.1	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	245.1	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	245.1	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	245.1	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	245.1	
MB 550-275320/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-275320/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-275320/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-184612-N-1-C MS	Matrix Spike	Total/NA	Water	245.1	
550-184612-N-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 275357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	245.1	275320
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	245.1	275320
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	245.1	275320
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	245.1	275320
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	245.1	275320
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	245.1	275320
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	245.1	275320

Metals (Continued)

Analysis Batch: 275357 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	245.1	275320
MB 550-275320/1-A	Method Blank	Total/NA	Water	245.1	275320
LCS 550-275320/2-A	Lab Control Sample	Total/NA	Water	245.1	275320
LCSD 550-275320/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	275320
550-184612-N-1-C MS	Matrix Spike	Total/NA	Water	245.1	275320
550-184612-N-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	275320

Analysis Batch: 275776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.7 Rev 4.4	275217
MB 550-275217/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275217
LCS 550-275217/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275217
LCSD 550-275217/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-A-4-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-A-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275217

Analysis Batch: 275777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.7 Rev 4.4	275218
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.7 Rev 4.4	275218
MB 550-275218/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275218
LCS 550-275218/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275218
LCSD 550-275218/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-E-10-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275218
550-184630-E-10-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275218

Analysis Batch: 275899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8 LL	275245
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8 LL	275245
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275245
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275245
550-184623-B-4-A MS	Matrix Spike	Total/NA	Water	200.8 LL	275245
550-184623-B-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275245

Analysis Batch: 276113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8 LL	275245
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8 LL	275245
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275245
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275245
550-184623-B-4-A MS	Matrix Spike	Total/NA	Water	200.8 LL	275245
550-184623-B-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275245

Metals

Prep Batch: 276186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.8	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.8	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.8	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.8	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.8	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.8	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.8	
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184634-A-8-D MS ^10	Matrix Spike	Total/NA	Water	200.8	
550-184634-A-8-D MS ^4	Matrix Spike	Total/NA	Water	200.8	
550-184634-A-8-E MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8	
550-184634-A-8-E MSD ^4	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 276199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8 LL	275245
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8 LL	275245
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275245
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275245
550-184623-B-4-A MS	Matrix Spike	Total/NA	Water	200.8 LL	275245
550-184623-B-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275245

Analysis Batch: 276684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.8 LL	276186
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.8 LL	276186
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.8 LL	276186
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.8 LL	276186
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.8 LL	276186
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.8 LL	276186
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.8 LL	276186
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8 LL	276186
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276186
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276186

Analysis Batch: 276831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.8 LL	276186
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.8 LL	276186
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.8 LL	276186
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.8 LL	276186
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.8 LL	276186
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.8 LL	276186
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.8 LL	276186
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.8 LL	276186
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8 LL	276186
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276186
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276186

Metals (Continued)

Analysis Batch: 276831 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-A-8-D MS ^4	Matrix Spike	Total/NA	Water	200.8 LL	276186
550-184634-A-8-E MSD ^4	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	276186

Analysis Batch: 276873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-A-8-D MS ^10	Matrix Spike	Total/NA	Water	200.8 LL	276186
550-184634-A-8-E MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	276186

Prep Batch: 577339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.7	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.7	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.7	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.7	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.7	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.7	
MB 280-577339/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577339/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-162942-A-3-C MS	Matrix Spike	Total/NA	Water	200.7	
280-162942-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 577344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.7	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.7	
MB 280-577344/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577344/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-577344/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-162601-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-162601-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 577835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	200.7 Rev 4.4	577339
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	200.7 Rev 4.4	577344
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	200.7 Rev 4.4	577344
MB 280-577339/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577339
MB 280-577344/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577344
LCS 280-577339/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577339
LCS 280-577344/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577344
LCSD 280-577344/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	577344
280-162601-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577344
280-162601-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577344
280-162942-A-3-C MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577339
280-162942-A-3-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577339

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

General Chemistry

Analysis Batch: 275274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	SM 2540C	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	SM 2540C	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	SM 2540C	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	SM 2540C	
MB 550-275274/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275274/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275274/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184630-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	SM 2540C	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	SM 2540C	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	SM 2540C	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	SM 2540C	
MB 550-275298/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275298/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275298/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184634-A-17 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184633-1	FC-CCR-MW62-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-2	FC-CCR-MW63-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-3	FC-CCR-MW64-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-4	FC-CCR-MW65-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-5	FC-CCR-SW1-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-6	FC-CCR-SW2-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-7	FC-CCR-SW3-0522	Total/NA	Water	SM 4500 H+ B	
550-184633-8	FC-CCR-FD08-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184630-A-13 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW62-0522

Lab Sample ID: 550-184633-1

Date Collected: 05/20/22 14:20
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275205	05/26/22 02:15	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275205	05/26/22 03:11	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 14:35	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:36	MAB	TAL DEN
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 17:30	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276113	06/06/22 16:03	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276199	06/07/22 11:12	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:31	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:04	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:16	CXK	TAL PHX

Client Sample ID: FC-CCR-MW63-0522

Lab Sample ID: 550-184633-2

Date Collected: 05/20/22 13:22
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275205	05/26/22 02:43	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275205	05/26/22 03:38	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:34	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:40	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:17	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:33	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:10	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:19	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW64-0522

Lab Sample ID: 550-184633-3
Date Collected: 05/20/22 12:26
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275203	05/25/22 20:41	AS1	TAL PHX
Total/NA	Analysis	300.0		5	275349	05/26/22 13:40	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:37	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:44	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:19	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:35	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:12	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:21	CXK	TAL PHX

Client Sample ID: FC-CCR-MW65-0522

Lab Sample ID: 550-184633-4
Date Collected: 05/20/22 15:06
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275204	05/26/22 00:51	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275204	05/26/22 03:11	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:40	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:48	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:21	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:37	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:14	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:24	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW1-0522

Lab Sample ID: 550-184633-5
Matrix: Water
Date Collected: 05/24/22 15:33
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275204	05/26/22 01:19	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:42	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:52	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:23	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:39	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:16	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:28	CXK	TAL PHX

Client Sample ID: FC-CCR-SW2-0522

Lab Sample ID: 550-184633-6
Matrix: Water
Date Collected: 05/24/22 16:55
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275204	05/26/22 01:47	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:45	MGM	TAL PHX
Total/NA	Prep	200.7			577339	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/10/22 21:56	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:25	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:42	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:18	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:30	CXK	TAL PHX

Client Sample ID: FC-CCR-SW3-0522

Lab Sample ID: 550-184633-7
Matrix: Water
Date Collected: 05/24/22 17:10
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275204	05/26/22 02:15	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:47	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW3-0522

Lab Sample ID: 550-184633-7
Matrix: Water

Date Collected: 05/24/22 17:10
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			577344	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/11/22 01:38	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:27	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:44	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:20	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:32	CXK	TAL PHX

Client Sample ID: FC-CCR-FD08-0522

Lab Sample ID: 550-184633-8
Matrix: Water

Date Collected: 05/24/22 15:33
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275204	05/26/22 02:43	AS1	TAL PHX
Total/NA	Prep	200.7			275218	05/26/22 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275777	06/01/22 15:50	MGM	TAL PHX
Total/NA	Prep	200.7			577344	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/11/22 01:42	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:29	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:46	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:22	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:34	CXK	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184633-1
SDG: APS Four Corners Power Plant (CWTP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

184633

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

6/17/2022

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			Walk-in Client:
	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (CWTP)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 - Totals (Hg)		Sample Specific Notes:
FC-CCR-MW62-0522	5/20/2022	14:20	G	W	2	N	N	X	X	X	X	X	X	-01	Low Flow
FC-CCR-MW63-0522	5/20/2022	13:22	G	W	2	N	N	X	X	X	X	X	X	-02	"
FC-CCR-MW64-0522	5/20/2022	12:26	G	W	2	N	N	X	X	X	X	X	X	-03	"
FC-CCR-MW65-0522	5/20/2022	15:06	G	W	2	N	N	X	X	X	X	X	X	-04	"
FC-CCR-SW1-0522	5/24/2022	15:33	G	W	2	N	N	X	X	X	X	X	X	-05	Morgan Lake grab sample
FC-CCR-SW2-0522	5/24/2022	16:55	G	W	2	N	N	X	X	X	X	X	X	-06	CWTP surface grab sample
FC-CCR-SW3-0522	5/24/2022	17:10	G	W	2	N	N	X	X	X	X	X	X	-07	Cooling canal grab sample
FC-CCR-FD08-0522	5/24/2022	15:33	G	W	2	N	N	X	X	X	X	X	X	-08	Surface water sample duplicate
								1	1	1	4	4	4		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if

☐ Return to Client ☑ Disposal by Lab

550-184633 Chain of Custody

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C ICE PC

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood	05/25/22 07:00	Francisco Hurtado	American Holdings	7:35 6-25-22
[signature]	American Hotshot	5-25-22 14:00			
			Received in Laboratory by: [signature]	Company: EEMS PHX	Date/Time: 5-25-22 1400

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34095.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184633-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/8/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW62-0522 (550-184633-1)	5/20/22	14:20 Arizona		Water			X	1	AZ Sample
FC-CCR-MW63-0522 (550-184633-2)	5/20/22	13:22 Arizona		Water			X	1	AZ Sample
FC-CCR-MW64-0522 (550-184633-3)	5/20/22	12:26 Arizona		Water			X	1	AZ Sample
FC-CCR-MW65-0522 (550-184633-4)	5/20/22	15:06 Arizona		Water			X	1	AZ Sample
FC-CCR-SW1-0522 (550-184633-5)	5/24/22	15:33 Arizona		Water			X	1	AZ Sample
FC-CCR-SW2-0522 (550-184633-6)	5/24/22	16:55 Arizona		Water			X	1	AZ Sample
FC-CCR-SW3-0522 (550-184633-7)	5/24/22	17:10 Arizona		Water			X	1	AZ Sample
FC-CCR-FD08-0522 (550-184633-8)	5/24/22	15:33 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 5-26-22 1500	Company: FEDA DMY	Received by: FED EX	Date/Time:	Company
Relinquished by: FedEX	Date/Time:	Company	Received by: [signature]	Date/Time: 5/27/22 1000	Company: ETADER
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Λ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.7/2.12 CF101

Ver: 06/08/2021

6/17/2022

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184633-1
SDG Number: APS Four Corners Power Plant (CWTP)

Login Number: 184633
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184633-1
SDG Number: APS Four Corners Power Plant (CWTP)

Login Number: 184633
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 05/28/22 09:45 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184623-1
Laboratory SDG: APS Four Corners Power Plant (Multiunit)
Client Project/Site: CCR Groundwater Monitoring
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/16/2022 4:18:39 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184623-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184623-1

Comments
The report being provided is a revision of the original report sent on 6/14/2022. The report (revision 1) is being revised due to: Methods reported to RL.

No additional comments.

Receipt
The samples were received on 5/25/2022 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.2º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix: FC-CCR-MW87-0522 (550-184623-2) and FC-CCR-FD04-0522 (550-184623-3). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix: FC-CCR-MW87-0522 (550-184623-2) and FC-CCR-FD04-0522 (550-184623-3). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: FC-CCR-MW08-0522 (550-184623-1), FC-CCR-MW87-0522 (550-184623-2), FC-CCR-FD04-0522 (550-184623-3), FC-CCR-MW52-0522 (550-184623-4), FC-CCR-MW61-0522 (550-184623-5) and FC-CCR-MW75-0522 (550-184623-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184623-1	FC-CCR-MW08-0522	Water	05/24/22 09:28	05/25/22 14:00
550-184623-2	FC-CCR-MW87-0522	Water	05/24/22 11:55	05/25/22 14:00
550-184623-3	FC-CCR-FD04-0522	Water	05/24/22 17:00	05/25/22 14:00
550-184623-4	FC-CCR-MW52-0522	Water	05/22/22 13:08	05/25/22 14:00
550-184623-5	FC-CCR-MW61-0522	Water	05/22/22 14:02	05/25/22 14:00
550-184623-6	FC-CCR-MW75-0522	Water	05/22/22 15:06	05/25/22 14:00
550-184623-7	FC-CCR-FD03-0522	Water	05/22/22 13:08	05/25/22 14:00

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW08-0522 — Lab Sample ID: 550-184623-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400		mg/L	200		300.0	Total/NA
Sulfate	10000	D2	400		mg/L	200		300.0	Total/NA
Lithium	1.2		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	17		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	970		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	38		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3000		2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.00056		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.00014		0.00010		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.015		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0015	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	490		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	490		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	15000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.65	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.1	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW87-0522 — Lab Sample ID: 550-184623-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	3300	D2	400		mg/L	200		300.0	Total/NA
Sulfate	31000	D2	1000		mg/L	500		300.0	Total/NA
Lithium	2.5		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.5		0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	450		4.0		mg/L	2		200.7 Rev 4.4	Total/NA
Magnesium	2900		10		mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	110		1.0		mg/L	2		200.7 Rev 4.4	Total/NA
Sodium	11000		10		mg/L	20		200.7 Rev 4.4	Total/NA
Iron	0.31		0.20		mg/L	2		200.7 Rev 4.4	Total/NA
Manganese	0.47		0.020		mg/L	2		200.7 Rev 4.4	Total/NA
Antimony	0.0014		0.0010		mg/L	1		200.8 LL	Total/NA
Arsenic	0.0017	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.010	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00017		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0077		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.053		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.012	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	1200		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1200		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	36000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.75	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.0	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD04-0522 — Lab Sample ID: 550-184623-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	3200	D2	400		mg/L	200		300.0	Total/NA
Sulfate	31000	D2	1000		mg/L	500		300.0	Total/NA
Lithium	2.5		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.5		0.10		mg/L	2		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-FD04-0522 (Continued) — Lab Sample ID: 550-184623-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Calcium	470		4.0		mg/L	2		200.7 Rev 4.4	Total/NA
Magnesium	3000		10		mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	110		1.0		mg/L	2		200.7 Rev 4.4	Total/NA
Sodium	11000		10		mg/L	20		200.7 Rev 4.4	Total/NA
Iron	0.33		0.20		mg/L	2		200.7 Rev 4.4	Total/NA
Manganese	0.47		0.020		mg/L	2		200.7 Rev 4.4	Total/NA
Antimony	0.0014		0.0010		mg/L	1		200.8 LL	Total/NA
Arsenic	0.0016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.0097	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00013		0.00010		mg/L	1		200.8 LL	Total/NA
Chromium	0.0011		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0077		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.055		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.013	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	1200		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1200		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	30000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.77	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.0	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW52-0522 — Lab Sample ID: 550-184623-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	16	M3	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.088		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0047		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW61-0522 — Lab Sample ID: 550-184623-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	340	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.3	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3800	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.46		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	39		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	140		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		1.0		mg/L	2		200.7 Rev 4.4	Total/NA
Arsenic	0.0011		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.018		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.0011		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.028		0.00050		mg/L	1		200.8 LL	Total/NA
Lead	0.0010		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.11		0.00050		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	97		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	68		6.0		mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	29		6.0		mg/L	1		SM 2320B	Total/NA
Alkalinity, Phenolphthalein	15		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5300	D2	100		mg/L	1		SM 2540C	Total/NA
pH	8.46	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	21.0	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW75-0522 — Lab Sample ID: 550-184623-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	310	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.2	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	4400	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.47		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	24		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	23		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1300		1.0		mg/L	2		200.7 Rev 4.4	Total/NA
Arsenic	0.00075		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.020		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.0016		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.050		0.00050		mg/L	1		200.8 LL	Total/NA
Lead	0.0026		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.17		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0030	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00021	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	100		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	100		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6300	D2	100		mg/L	1		SM 2540C	Total/NA
pH	8.20	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	20.9	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD03-0522 — Lab Sample ID: 550-184623-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	15		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.092		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0053		0.00050		mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW08-0522

Lab Sample ID: 550-184623-1
Date Collected: 05/24/22 09:28
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1100**	**D2**	400	mg/L			05/27/22 18:03	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 17:07	2
Sulfate	**10000**	**D2**	400	mg/L			05/27/22 18:03	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:45	06/01/22 13:56	1
Lithium	**1.2**		0.020	mg/L		06/06/22 11:38	06/08/22 00:42	1
Boron	**17**		0.050	mg/L		05/26/22 06:45	06/01/22 13:56	1
Calcium	**420**		2.0	mg/L		05/26/22 06:45	06/01/22 13:56	1
Magnesium	**970**		2.0	mg/L		05/26/22 06:45	06/01/22 13:56	1
Potassium	**38**		0.50	mg/L		05/26/22 06:45	06/02/22 20:02	1
Sodium	**3000**		2.5	mg/L		05/26/22 06:45	06/02/22 19:31	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 16:54	1
Arsenic	**0.00056**		0.00050	mg/L		05/26/22 09:25	06/02/22 16:54	1
Barium	**0.011**		0.00050	mg/L		05/26/22 09:25	06/07/22 15:04	1
Cadmium	**0.00014**		0.00010	mg/L		05/26/22 09:25	06/02/22 16:54	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 16:54	1
Cobalt	<0.00050		0.00050	mg/L		05/26/22 09:25	06/02/22 16:54	1
Lead	<0.00050		0.00050	mg/L		05/26/22 09:25	06/02/22 16:54	1
Molybdenum	**0.015**		0.00050	mg/L		05/26/22 09:25	06/02/22 16:54	1
Selenium	**0.0015**	**D1**	0.0010	mg/L		06/07/22 10:29	06/09/22 18:51	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:29	06/13/22 12:00	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 18:52	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**490**		6.0	mg/L			05/27/22 20:38	1
Bicarbonate Alkalinity as CaCO3	**490**		6.0	mg/L			05/27/22 20:38	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 20:38	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			05/27/22 20:38	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 20:38	1
Total Dissolved Solids	**15000**	**D2**	100	mg/L			05/26/22 12:23	1
pH	**7.65**	**H5**	1.68	SU			06/01/22 13:46	1
Temperature	**21.1**	**H5**	0.100	Degrees C			06/01/22 13:46	1

Client Sample ID: FC-CCR-MW87-0522

Lab Sample ID: 550-184623-2
Date Collected: 05/24/22 11:55
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3300**	**D2**	400	mg/L			05/27/22 18:21	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 17:26	2
Sulfate	**31000**	**D2**	1000	mg/L			05/31/22 14:33	500

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW87-0522

Lab Sample ID: 550-184623-2
Date Collected: 05/24/22 11:55
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0020		0.0020	mg/L		05/26/22 06:45	06/01/22 15:58	2
Lithium	**2.5**		0.020	mg/L		06/06/22 11:38	06/08/22 00:46	1
Boron	**1.5**		0.10	mg/L		05/26/22 06:45	06/01/22 15:58	2
Calcium	**450**		4.0	mg/L		05/26/22 06:45	06/01/22 15:58	2
Magnesium	**2900**		10	mg/L		05/26/22 06:45	06/02/22 19:36	5
Potassium	**110**		1.0	mg/L		05/26/22 06:45	06/02/22 20:05	2
Sodium	**11000**		10	mg/L		05/26/22 06:45	06/02/22 19:34	20
Iron	**0.31**		0.20	mg/L		05/26/22 06:45	06/01/22 15:58	2
Manganese	**0.47**		0.020	mg/L		05/26/22 06:45	06/02/22 20:05	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0014**		0.0010	mg/L		05/26/22 09:25	06/03/22 15:02	1
Arsenic	**0.0017**	**D1**	0.0010	mg/L		06/07/22 10:29	06/09/22 18:53	2
Barium	**0.010**	**D1**	0.0010	mg/L		06/07/22 10:29	06/09/22 18:53	2
Cadmium	**0.00017**		0.00010	mg/L		05/26/22 09:25	06/03/22 15:02	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:25	06/03/22 15:02	1
Cobalt	**0.0077**		0.00050	mg/L		05/26/22 09:25	06/03/22 15:02	1
Lead	<0.00050		0.00050	mg/L		05/26/22 09:25	06/03/22 15:02	1
Molybdenum	**0.053**		0.00050	mg/L		05/26/22 09:25	06/03/22 15:02	1
Selenium	**0.012**	**D1**	0.0010	mg/L		06/07/22 10:29	06/09/22 18:53	2
Thallium	<0.00040	D1	0.00040	mg/L		06/07/22 10:29	06/14/22 10:10	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 18:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**1200**		6.0	mg/L			05/27/22 20:47	1
Bicarbonate Alkalinity as CaCO3	**1200**		6.0	mg/L			05/27/22 20:47	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 20:47	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			05/27/22 20:47	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 20:47	1
Total Dissolved Solids	**36000**	**D2**	1000	mg/L			05/26/22 12:23	1
pH	**7.75**	**H5**	1.68	SU			06/01/22 13:49	1
Temperature	**21.0**	**H5**	0.100	Degrees C			06/01/22 13:49	1

Client Sample ID: FC-CCR-FD04-0522

Lab Sample ID: 550-184623-3
Date Collected: 05/24/22 17:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3200**	**D2**	400	mg/L			05/27/22 18:39	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 17:44	2
Sulfate	**31000**	**D2**	1000	mg/L			05/31/22 14:14	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0020		0.0020	mg/L		05/26/22 06:45	06/01/22 16:00	2

Client Sample ID: FC-CCR-FD04-0522

Lab Sample ID: 550-184623-3

Date Collected: 05/24/22 17:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	2.5		0.020	mg/L		06/06/22 11:38	06/08/22 00:50	1
Boron	1.5		0.10	mg/L		05/26/22 06:45	06/01/22 16:00	2
Calcium	470		4.0	mg/L		05/26/22 06:45	06/01/22 16:00	2
Magnesium	3000		10	mg/L		05/26/22 06:45	06/02/22 19:41	5
Potassium	110		1.0	mg/L		05/26/22 06:45	06/02/22 20:07	2
Sodium	11000		10	mg/L		05/26/22 06:45	06/02/22 19:39	20
Iron	0.33		0.20	mg/L		05/26/22 06:45	06/01/22 16:00	2
Manganese	0.47		0.020	mg/L		05/26/22 06:45	06/02/22 20:07	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0014		0.0010	mg/L		05/26/22 09:25	06/03/22 15:04	1
Arsenic	0.0016	D1	0.0010	mg/L		06/07/22 10:29	06/09/22 18:55	2
Barium	0.0097	D1	0.0010	mg/L		06/07/22 10:29	06/09/22 18:55	2
Cadmium	0.00013		0.00010	mg/L		05/26/22 09:25	06/03/22 15:04	1
Chromium	0.0011		0.0010	mg/L		05/26/22 09:25	06/03/22 15:04	1
Cobalt	0.0077		0.00050	mg/L		05/26/22 09:25	06/03/22 15:04	1
Lead	<0.00050		0.00050	mg/L		05/26/22 09:25	06/02/22 16:59	1
Molybdenum	0.055		0.00050	mg/L		05/26/22 09:25	06/03/22 15:04	1
Selenium	0.013	D1	0.0010	mg/L		06/07/22 10:29	06/09/22 18:55	2
Thallium	<0.00040	D1	0.00040	mg/L		06/07/22 10:29	06/14/22 10:14	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 18:56	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	1200		6.0	mg/L			05/27/22 21:22	1
Bicarbonate Alkalinity as CaCO3	1200		6.0	mg/L			05/27/22 21:22	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 21:22	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			05/27/22 21:22	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 21:22	1
Total Dissolved Solids	30000	D2	1000	mg/L			05/26/22 12:23	1
pH	7.77	H5	1.68	SU			06/01/22 13:51	1
Temperature	21.0	H5	0.100	Degrees C			06/01/22 13:51	1

Client Sample ID: FC-CCR-MW52-0522

Lab Sample ID: 550-184623-4

Date Collected: 05/22/22 13:08
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	16	M3	0.050	mg/L		05/26/22 06:45	06/01/22 13:53	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.088		0.00050	mg/L		05/26/22 09:25	06/02/22 16:52	1
Molybdenum	0.0047		0.00050	mg/L		05/26/22 09:25	06/02/22 16:52	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW61-0522

Lab Sample ID: 550-184623-5
Date Collected: 05/22/22 14:02
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	340	D2	4.0	mg/L			05/26/22 19:18	2
Fluoride	1.3	D1	0.80	mg/L			05/26/22 19:18	2
Sulfate	3800	D2	400	mg/L			05/26/22 20:42	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:45	06/01/22 14:03	1
Lithium	0.46		0.020	mg/L		06/06/22 11:38	06/08/22 00:54	1
Boron	39		0.050	mg/L		05/26/22 06:45	06/01/22 14:03	1
Calcium	480		2.0	mg/L		05/26/22 06:45	06/01/22 14:03	1
Magnesium	140		2.0	mg/L		05/26/22 06:45	06/01/22 14:03	1
Potassium	20		0.50	mg/L		05/26/22 06:45	06/02/22 20:10	1
Sodium	1100		1.0	mg/L		05/26/22 06:45	06/02/22 19:44	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:01	1
Arsenic	0.0011		0.00050	mg/L		05/26/22 09:25	06/02/22 17:01	1
Barium	0.018		0.00050	mg/L		05/26/22 09:25	06/07/22 15:10	1
Cadmium	0.0011		0.00010	mg/L		05/26/22 09:25	06/02/22 17:01	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:01	1
Cobalt	0.028		0.00050	mg/L		05/26/22 09:25	06/02/22 17:01	1
Lead	0.0010		0.00050	mg/L		05/26/22 09:25	06/02/22 17:01	1
Molybdenum	0.11		0.00050	mg/L		05/26/22 09:25	06/02/22 17:01	1
Selenium	<0.0010	D1	0.0010	mg/L		06/07/22 10:29	06/09/22 18:57	2
Thallium	<0.00020	D1	0.00020	mg/L		06/07/22 10:29	06/13/22 12:07	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 18:58	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	97		6.0	mg/L			05/27/22 18:55	1
Bicarbonate Alkalinity as CaCO3	68		6.0	mg/L			05/27/22 18:55	1
Carbonate Alkalinity as CaCO3	29		6.0	mg/L			05/27/22 18:55	1
Alkalinity, Phenolphthalein	15		6.0	mg/L			05/27/22 18:55	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 18:55	1
Total Dissolved Solids	5300	D2	100	mg/L			05/26/22 10:53	1
pH	8.46	H5	1.68	SU			06/01/22 13:53	1
Temperature	21.0	H5	0.100	Degrees C			06/01/22 13:53	1

Client Sample ID: FC-CCR-MW75-0522

Lab Sample ID: 550-184623-6
Date Collected: 05/22/22 15:06
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310	D2	4.0	mg/L			05/26/22 19:46	2
Fluoride	1.2	D1	0.80	mg/L			05/26/22 19:46	2
Sulfate	4400	D2	400	mg/L			05/26/22 21:10	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW75-0522

Lab Sample ID: 550-184623-6
Date Collected: 05/22/22 15:06
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 06:45	06/01/22 14:06	1
Lithium	**0.47**		0.020	mg/L		06/06/22 11:38	06/08/22 00:58	1
Boron	**24**		0.050	mg/L		05/26/22 06:45	06/01/22 14:06	1
Calcium	**440**		2.0	mg/L		05/26/22 06:45	06/01/22 14:06	1
Magnesium	**230**		2.0	mg/L		05/26/22 06:45	06/01/22 14:06	1
Potassium	**23**		0.50	mg/L		05/26/22 06:45	06/02/22 20:13	1
Sodium	**1300**		1.0	mg/L		05/26/22 06:45	06/02/22 19:47	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:03	1
Arsenic	**0.00075**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:03	1
Barium	**0.020**		0.00050	mg/L		05/26/22 09:25	06/07/22 15:13	1
Cadmium	**0.0016**		0.00010	mg/L		05/26/22 09:25	06/02/22 17:03	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:25	06/02/22 17:03	1
Cobalt	**0.050**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:03	1
Lead	**0.0026**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:03	1
Molybdenum	**0.17**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:03	1
Selenium	**0.0030**	**D1**	0.0010	mg/L		06/07/22 10:29	06/09/22 18:59	2
Thallium	**0.00021**	**D1**	0.00020	mg/L		06/07/22 10:29	06/13/22 12:09	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/26/22 15:29	05/26/22 19:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**100**		6.0	mg/L			05/27/22 19:01	1
Bicarbonate Alkalinity as CaCO3	**100**		6.0	mg/L			05/27/22 19:01	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 19:01	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			05/27/22 19:01	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 19:01	1
Total Dissolved Solids	**6300**	**D2**	100	mg/L			05/26/22 10:53	1
pH	**8.20**	**H5**	1.68	SU			06/01/22 13:55	1
Temperature	**20.9**	**H5**	0.100	Degrees C			06/01/22 13:55	1

Client Sample ID: FC-CCR-FD03-0522

Lab Sample ID: 550-184623-7
Date Collected: 05/22/22 13:08
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**15**		0.050	mg/L		05/26/22 06:45	06/01/22 14:09	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.092**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:05	1
Molybdenum	**0.0053**		0.00050	mg/L		05/26/22 09:25	06/02/22 17:05	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275350/2
Matrix: Water
Analysis Batch: 275350

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/26/22 10:53	1
Fluoride	<0.40		0.40		mg/L			05/26/22 10:53	1
Sulfate	<2.0		2.0		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275350/5
Matrix: Water
Analysis Batch: 275350

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	4.02		mg/L		101	90 - 110		
Sulfate			20.0	20.2		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-275350/6
Matrix: Water
Analysis Batch: 275350

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.02		mg/L		101	90 - 110	0	20
Sulfate			20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-184642-B-1 MS
Matrix: Water
Analysis Batch: 275350

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	7.8		20.0	30.1		mg/L		112	80 - 120		
Fluoride	<0.40		4.00	4.24		mg/L		103	80 - 120		
Sulfate	18		20.0	38.1		mg/L		103	80 - 120		

Lab Sample ID: 550-184642-B-1 MSD
Matrix: Water
Analysis Batch: 275350

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7.8		20.0	30.2		mg/L		112	80 - 120	0	20
Fluoride	<0.40		4.00	4.26		mg/L		103	80 - 120	0	20
Sulfate	18		20.0	38.2		mg/L		103	80 - 120	0	20

Lab Sample ID: MB 550-275464/2
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/27/22 10:41	1
Fluoride	<0.40		0.40		mg/L			05/27/22 10:41	1
Sulfate	<2.0		2.0		mg/L			05/27/22 10:41	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-275464/5
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.04		mg/L		101	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-275464/6
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.04		mg/L		101	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-184742-A-1 MS ^5
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	34	D2	100	144	D2	mg/L		110	80 - 120
Fluoride	2.3	D1	20.0	22.7	D1	mg/L		102	80 - 120
Sulfate	370	D2	100	465	D2	mg/L		95	80 - 120

Lab Sample ID: 550-184742-A-1 MSD ^5
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	34	D2	100	144	D2	mg/L		110	80 - 120	0	20
Fluoride	2.3	D1	20.0	22.8	D1	mg/L		103	80 - 120	1	20
Sulfate	370	D2	100	464	D2	mg/L		94	80 - 120	0	20

Lab Sample ID: MB 550-275595/2
Matrix: Water
Analysis Batch: 275595

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0	mg/L			05/31/22 10:52	1
Fluoride	<0.40		0.40	mg/L			05/31/22 10:52	1
Sulfate	<2.0		2.0	mg/L			05/31/22 10:52	1

Lab Sample ID: LCS 550-275595/5
Matrix: Water
Analysis Batch: 275595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.2		mg/L		106	90 - 110
Fluoride	4.00	3.97		mg/L		99	90 - 110
Sulfate	20.0	20.7		mg/L		104	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-275595/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride			4.00	3.99		mg/L		100	90 - 110	0	20
Sulfate			20.0	20.7		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-184768-E-3 MS ^200 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	<400	D1	4000	4440	D1	mg/L		107	80 - 120		
Sulfate	12000	D2	4000	16000	D2	mg/L		103	80 - 120		

Lab Sample ID: 550-184768-E-3 MSD ^200 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<400	D1	4000	4420	D1	mg/L		106	80 - 120	0	20
Sulfate	12000	D2	4000	16000	D2	mg/L		103	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275217/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 06:45	06/01/22 13:40	1
Boron	<0.050		0.050		mg/L		05/26/22 06:45	06/01/22 13:40	1
Calcium	<2.0		2.0		mg/L		05/26/22 06:45	06/01/22 13:40	1
Magnesium	<2.0		2.0		mg/L		05/26/22 06:45	06/01/22 13:40	1
Sodium	<0.50		0.50		mg/L		05/26/22 06:45	06/01/22 13:40	1
Iron	<0.10		0.10		mg/L		05/26/22 06:45	06/01/22 13:40	1

Lab Sample ID: MB 550-275217/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275993 — **Prep Batch: 275217**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Potassium	<0.50		0.50		mg/L		05/26/22 06:45	06/02/22 19:15	1
Sodium	<0.50		0.50		mg/L		05/26/22 06:45	06/02/22 19:15	1
Manganese	<0.010		0.010		mg/L		05/26/22 06:45	06/02/22 19:15	1

Lab Sample ID: LCS 550-275217/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	0.972		mg/L		97	85 - 115		
Boron			1.00	0.967		mg/L		97	85 - 115		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-275217/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	21.0	19.5		mg/L		93	85 - 115
Magnesium	21.0	19.8		mg/L		94	85 - 115
Sodium	20.0	19.2		mg/L		96	85 - 115
Iron	1.00	0.963		mg/L		96	85 - 115

Lab Sample ID: LCS 550-275217/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275993 — **Prep Batch: 275217**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	20.0	20.2		mg/L		101	85 - 115
Sodium	20.0	20.2		mg/L		101	85 - 115
Manganese	1.00	0.955		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-275217/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.01		mg/L		101	85 - 115	4	20
Boron	1.00	0.958		mg/L		96	85 - 115	1	20
Calcium	21.0	20.2		mg/L		96	85 - 115	4	20
Magnesium	21.0	20.5		mg/L		98	85 - 115	3	20
Sodium	20.0	20.0		mg/L		100	85 - 115	4	20
Iron	1.00	0.971		mg/L		97	85 - 115	1	20

Lab Sample ID: LCSD 550-275217/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275993 — **Prep Batch: 275217**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	20.0	19.4		mg/L		97	85 - 115	4	20
Sodium	20.0	19.4		mg/L		97	85 - 115	4	20
Manganese	1.00	0.953		mg/L		95	85 - 115	0	20

Lab Sample ID: 550-184623-4 MS — **Client Sample ID: FC-CCR-MW52-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	16	M3	1.00	15.5	M3	mg/L		-25	70 - 130

Lab Sample ID: 550-184623-4 MSD — **Client Sample ID: FC-CCR-MW52-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275776 — **Prep Batch: 275217**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	16	M3	1.00	15.8	M3	mg/L		3	70 - 130	2	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 280-577200/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577418 — **Prep Batch: 577200**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/06/22 11:38	06/07/22 22:41	1

Lab Sample ID: LCS 280-577200/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577515 — **Prep Batch: 577200**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.980		mg/L		98	90 - 112		

Lab Sample ID: 280-162978-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577418 — **Prep Batch: 577200**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.058		1.00	1.08		mg/L		102	70 - 130		

Lab Sample ID: 280-162978-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577418 — **Prep Batch: 577200**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.058		1.00	1.01		mg/L		95	70 - 130	6	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-275245/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Arsenic	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Cadmium	<0.00010		0.00010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Chromium	<0.0010		0.0010		mg/L		05/26/22 09:25	06/02/22 16:42	1
Cobalt	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Lead	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1
Molybdenum	<0.00050		0.00050		mg/L		05/26/22 09:25	06/02/22 16:42	1

Lab Sample ID: MB 550-275245/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND	E8	0.00050	0.00026	mg/L		05/26/22 09:25	06/07/22 10:45	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-275245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0950		mg/L		95	85 - 115
Arsenic	0.100	0.0967		mg/L		97	85 - 115
Cadmium	0.100	0.0955		mg/L		96	85 - 115
Chromium	0.100	0.101		mg/L		101	85 - 115
Cobalt	0.100	0.0994		mg/L		99	85 - 115
Lead	0.100	0.0969		mg/L		97	85 - 115
Molybdenum	0.100	0.0961		mg/L		96	85 - 115

Lab Sample ID: LCS 550-275245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.111		mg/L		111	85 - 115

Lab Sample ID: LCSD 550-275245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0983		mg/L		98	85 - 115	3	20
Arsenic	0.100	0.0985		mg/L		99	85 - 115	2	20
Cadmium	0.100	0.100		mg/L		100	85 - 115	5	20
Chromium	0.100	0.102		mg/L		102	85 - 115	0	20
Cobalt	0.100	0.101		mg/L		101	85 - 115	2	20
Lead	0.100	0.101		mg/L		101	85 - 115	4	20
Molybdenum	0.100	0.101		mg/L		101	85 - 115	5	20

Lab Sample ID: LCSD 550-275245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276199 — **Prep Batch: 275245**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Barium	0.100	0.112		mg/L		112	85 - 115	1	20

Lab Sample ID: 550-184623-4 MS — **Client Sample ID: FC-CCR-MW52-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.088		0.100	0.189		mg/L		101	70 - 130
Molybdenum	0.0047		0.100	0.106		mg/L		101	70 - 130

Lab Sample ID: 550-184623-4 MSD — **Client Sample ID: FC-CCR-MW52-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275899 — **Prep Batch: 275245**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.088		0.100	0.188		mg/L		100	70 - 130	0	20
Molybdenum	0.0047		0.100	0.107		mg/L		102	70 - 130	1	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-276187/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276695 — **Prep Batch: 276187**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00050		0.00050		mg/L		06/07/22 10:29	06/09/22 18:38	1
Barium	<0.00050		0.00050		mg/L		06/07/22 10:29	06/09/22 18:38	1
Selenium	<0.00050		0.00050		mg/L		06/07/22 10:29	06/09/22 18:38	1

Lab Sample ID: MB 550-276187/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276728 — **Prep Batch: 276187**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00010		0.00010		mg/L		06/07/22 10:29	06/13/22 11:48	1

Lab Sample ID: LCS 550-276187/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276695 — **Prep Batch: 276187**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Arsenic			0.100	0.0977		mg/L		98	85 - 115		
Barium			0.100	0.0983		mg/L		98	85 - 115		
Selenium			0.100	0.0994		mg/L		99	85 - 115		

Lab Sample ID: LCS 550-276187/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276728 — **Prep Batch: 276187**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Thallium			0.100	0.0966		mg/L		97	85 - 115		

Lab Sample ID: LCSD 550-276187/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276695 — **Prep Batch: 276187**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic			0.100	0.0976		mg/L		98	85 - 115	0	20
Barium			0.100	0.106		mg/L		106	85 - 115	8	20
Selenium			0.100	0.0982		mg/L		98	85 - 115	1	20

Lab Sample ID: LCSD 550-276187/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276728 — **Prep Batch: 276187**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium			0.100	0.103		mg/L		103	85 - 115	6	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-275320/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020		mg/L		05/26/22 15:29	05/26/22 18:36	1

Lab Sample ID: LCS 550-275320/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg			0.00500	0.00470		mg/L		94	85 - 115		

Lab Sample ID: LCSD 550-275320/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00471		mg/L		94	85 - 115	0	20

Lab Sample ID: 550-184612-N-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg	<0.00020		0.00500	0.00535		mg/L		107	70 - 130		

Lab Sample ID: 550-184612-N-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275357 — **Prep Batch: 275320**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	<0.00020		0.00500	0.00552		mg/L		110	70 - 130	3	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-275562/27 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 20:09	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1

Lab Sample ID: MB 550-275562/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-275562/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 17:08	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1

Lab Sample ID: LCS 550-275562/26 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	256		mg/L		102	90 - 110		

Lab Sample ID: LCS 550-275562/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	253		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-275562/13 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	252		mg/L		101	90 - 110	0	20

Lab Sample ID: LCSD 550-275562/37 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	255		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184624-W-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	110			110		mg/L				0.4	20
Bicarbonate Alkalinity as CaCO3	110			110		mg/L				0.4	20
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Lab Sample ID: 550-184648-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	270			264		mg/L				0.5	20
Bicarbonate Alkalinity as CaCO3	270			264		mg/L				0.5	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-184648-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275274/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275274/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	986		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-275274/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	970		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-184630-A-4 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	8300	D2		8170	D2	mg/L				2	10

Lab Sample ID: MB 550-275298/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 12:23	1

Lab Sample ID: LCS 550-275298/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110		

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-275298/3
Matrix: Water
Analysis Batch: 275298

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	934		mg/L		93	90 - 110	7	10

Lab Sample ID: 550-184634-A-17 DU
Matrix: Water
Analysis Batch: 275298

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000	D2		10100	D2	mg/L				0.3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-275704/16
Matrix: Water
Analysis Batch: 275704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.978		SU		99.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275704/4
Matrix: Water
Analysis Batch: 275704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.981		SU		99.7	98.5 - 101.5		

Lab Sample ID: 550-184617-A-3 DU
Matrix: Water
Analysis Batch: 275704

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	10.7	H5		10.79	H5	SU				0.4	5
Temperature	21.2	H5		21.20	H5	Degrees C				0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

HPLC/IC

Analysis Batch: 275350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	300.0	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	300.0	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	300.0	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	300.0	
MB 550-275350/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275350/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275350/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184642-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184642-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	300.0	
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	300.0	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	300.0	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	300.0	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	300.0	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	300.0	
MB 550-275464/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275464/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275464/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184742-A-1 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-184742-A-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	300.0	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	300.0	
MB 550-275595/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275595/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275595/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184768-E-3 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-184768-E-3 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 275217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7	
550-184623-4	FC-CCR-MW52-0522	Total/NA	Water	200.7	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7	
550-184623-7	FC-CCR-FD03-0522	Total/NA	Water	200.7	
MB 550-275217/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275217/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275217/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184623-4 MS	FC-CCR-MW52-0522	Total/NA	Water	200.7	
550-184623-4 MSD	FC-CCR-MW52-0522	Total/NA	Water	200.7	

Metals

Prep Batch: 275245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.8	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8	
550-184623-4	FC-CCR-MW52-0522	Total/NA	Water	200.8	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8	
550-184623-7	FC-CCR-FD03-0522	Total/NA	Water	200.8	
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184623-4 MS	FC-CCR-MW52-0522	Total/NA	Water	200.8	
550-184623-4 MSD	FC-CCR-MW52-0522	Total/NA	Water	200.8	

Prep Batch: 275320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	245.1	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	245.1	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	245.1	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	245.1	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	245.1	
MB 550-275320/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-275320/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-275320/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-184612-N-1-C MS	Matrix Spike	Total/NA	Water	245.1	
550-184612-N-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 275357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	245.1	275320
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	245.1	275320
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	245.1	275320
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	245.1	275320
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	245.1	275320
MB 550-275320/1-A	Method Blank	Total/NA	Water	245.1	275320
LCS 550-275320/2-A	Lab Control Sample	Total/NA	Water	245.1	275320
LCSD 550-275320/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	275320
550-184612-N-1-C MS	Matrix Spike	Total/NA	Water	245.1	275320
550-184612-N-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	275320

Analysis Batch: 275776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-4	FC-CCR-MW52-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-7	FC-CCR-FD03-0522	Total/NA	Water	200.7 Rev 4.4	275217
MB 550-275217/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275217
LCS 550-275217/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275217
LCSD 550-275217/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-4 MS	FC-CCR-MW52-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-4 MSD	FC-CCR-MW52-0522	Total/NA	Water	200.7 Rev 4.4	275217

Metals

Analysis Batch: 275778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	275217

Analysis Batch: 275899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8 LL	275245
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8 LL	275245
550-184623-4	FC-CCR-MW52-0522	Total/NA	Water	200.8 LL	275245
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8 LL	275245
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8 LL	275245
550-184623-7	FC-CCR-FD03-0522	Total/NA	Water	200.8 LL	275245
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8 LL	275245
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275245
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275245
550-184623-4 MS	FC-CCR-MW52-0522	Total/NA	Water	200.8 LL	275245
550-184623-4 MSD	FC-CCR-MW52-0522	Total/NA	Water	200.8 LL	275245

Analysis Batch: 275993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7 Rev 4.4	275217
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7 Rev 4.4	275217
MB 550-275217/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275217
LCS 550-275217/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275217
LCSD 550-275217/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275217

Analysis Batch: 276075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.8 LL	275245
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8 LL	275245

Prep Batch: 276187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.8	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8	
MB 550-276187/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-276187/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-276187/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Metals

Analysis Batch: 276199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275245/1-A	Method Blank	Total/NA	Water	200.8 LL	275245
LCS 550-275245/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275245
LCSD 550-275245/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275245

Analysis Batch: 276289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8 LL	275245
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8 LL	275245
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8 LL	275245

Analysis Batch: 276695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8 LL	276187
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.8 LL	276187
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8 LL	276187
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8 LL	276187
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8 LL	276187
MB 550-276187/1-A	Method Blank	Total/NA	Water	200.8 LL	276187
LCS 550-276187/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276187
LCSD 550-276187/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276187

Analysis Batch: 276728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.8 LL	276187
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.8 LL	276187
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.8 LL	276187
MB 550-276187/1-A	Method Blank	Total/NA	Water	200.8 LL	276187
LCS 550-276187/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276187
LCSD 550-276187/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276187

Analysis Batch: 276786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.8 LL	276187
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.8 LL	276187

Prep Batch: 577200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7	
MB 280-577200/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577200/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-162978-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-162978-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 577418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	200.7 Rev 4.4	577200
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	200.7 Rev 4.4	577200

Metals (Continued)

Analysis Batch: 577418 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	200.7 Rev 4.4	577200
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	200.7 Rev 4.4	577200
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	200.7 Rev 4.4	577200
MB 280-577200/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577200
280-162978-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577200
280-162978-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577200

Analysis Batch: 577515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-577200/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577200

General Chemistry

Analysis Batch: 275274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	SM 2540C	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	SM 2540C	
MB 550-275274/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275274/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275274/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184630-A-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	SM 2540C	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	SM 2540C	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	SM 2540C	
MB 550-275298/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275298/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275298/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184634-A-17 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	SM 2320B	
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	SM 2320B	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	SM 2320B	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	SM 2320B	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	SM 2320B	
MB 550-275562/27	Method Blank	Total/NA	Water	SM 2320B	
MB 550-275562/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-275562/26	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-275562/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-275562/13	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-275562/37	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-184624-W-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-184648-E-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 275704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-1	FC-CCR-MW08-0522	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 275704 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184623-2	FC-CCR-MW87-0522	Total/NA	Water	SM 4500 H+ B	
550-184623-3	FC-CCR-FD04-0522	Total/NA	Water	SM 4500 H+ B	
550-184623-5	FC-CCR-MW61-0522	Total/NA	Water	SM 4500 H+ B	
550-184623-6	FC-CCR-MW75-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275704/16	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275704/4	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184617-A-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW08-0522

Lab Sample ID: 550-184623-1
Matrix: Water
Date Collected: 05/24/22 09:28
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 17:07	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 18:03	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 13:56	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275993	06/02/22 19:31	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275993	06/02/22 20:02	MGM	TAL PHX
Total/NA	Prep	200.7			577200	06/06/22 11:38	DNM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577418	06/08/22 00:42	MAB	TAL DEN
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 16:54	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276289	06/07/22 15:04	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276695	06/09/22 18:51	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276728	06/13/22 12:00	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 18:52	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 20:38	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 13:46	CXK	TAL PHX

Client Sample ID: FC-CCR-MW87-0522

Lab Sample ID: 550-184623-2
Matrix: Water
Date Collected: 05/24/22 11:55
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 17:26	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 18:21	AS1	TAL PHX
Total/NA	Analysis	300.0		500	275595	05/31/22 14:33	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275778	06/01/22 15:58	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	275993	06/02/22 19:34	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275993	06/02/22 19:36	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275993	06/02/22 20:05	MGM	TAL PHX
Total/NA	Prep	200.7			577200	06/06/22 11:38	DNM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577418	06/08/22 00:46	MAB	TAL DEN

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW87-0522

Lab Sample ID: 550-184623-2
Matrix: Water
Date Collected: 05/24/22 11:55
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276075	06/03/22 15:02	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276695	06/09/22 18:53	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276786	06/14/22 10:10	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 18:54	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 20:47	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 13:49	CXK	TAL PHX

Client Sample ID: FC-CCR-FD04-0522

Lab Sample ID: 550-184623-3
Matrix: Water
Date Collected: 05/24/22 17:00
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 17:44	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 18:39	AS1	TAL PHX
Total/NA	Analysis	300.0		500	275595	05/31/22 14:14	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275778	06/01/22 16:00	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	275993	06/02/22 19:39	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275993	06/02/22 19:41	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275993	06/02/22 20:07	MGM	TAL PHX
Total/NA	Prep	200.7			577200	06/06/22 11:38	DNM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577418	06/08/22 00:50	MAB	TAL DEN
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 16:59	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276075	06/03/22 15:04	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276695	06/09/22 18:55	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276786	06/14/22 10:14	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 18:56	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 21:22	CHS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-FD04-0522 — Lab Sample ID: 550-184623-3

Date Collected: 05/24/22 17:00
Date Received: 05/25/22 14:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 13:51	CXK	TAL PHX

Client Sample ID: FC-CCR-MW52-0522 — Lab Sample ID: 550-184623-4

Date Collected: 05/22/22 13:08
Date Received: 05/25/22 14:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 13:53	MGM	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 16:52	ARE	TAL PHX

Client Sample ID: FC-CCR-MW61-0522 — Lab Sample ID: 550-184623-5

Date Collected: 05/22/22 14:02
Date Received: 05/25/22 14:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275350	05/26/22 19:18	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275350	05/26/22 20:42	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 14:03	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275993	06/02/22 19:44	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275993	06/02/22 20:10	MGM	TAL PHX
Total/NA	Prep	200.7			577200	06/06/22 11:38	DNM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577418	06/08/22 00:54	MAB	TAL DEN
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 17:01	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276289	06/07/22 15:10	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276695	06/09/22 18:57	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276728	06/13/22 12:07	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 18:58	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 18:55	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 13:53	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW75-0522

Lab Sample ID: 550-184623-6
Date Collected: 05/22/22 15:06
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275350	05/26/22 19:46	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275350	05/26/22 21:10	AS1	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 14:06	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275993	06/02/22 19:47	MGM	TAL PHX
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275993	06/02/22 20:13	MGM	TAL PHX
Total/NA	Prep	200.7			577200	06/06/22 11:38	DNM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577418	06/08/22 00:58	MAB	TAL DEN
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 17:03	ARE	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	276289	06/07/22 15:13	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276695	06/09/22 18:59	ARE	TAL PHX
Total/NA	Prep	200.8			276187	06/07/22 10:29	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276728	06/13/22 12:09	ARE	TAL PHX
Total/NA	Prep	245.1			275320	05/26/22 15:29	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275357	05/26/22 19:00	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 19:01	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	275704	06/01/22 13:55	CXK	TAL PHX

Client Sample ID: FC-CCR-FD03-0522

Lab Sample ID: 550-184623-7
Date Collected: 05/22/22 13:08
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275217	05/26/22 06:45	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275776	06/01/22 14:09	MGM	TAL PHX
Total/NA	Prep	200.8			275245	05/26/22 09:25	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275899	06/02/22 17:05	ARE	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184623-1
SDG: APS Four Corners Power Plant (Multiunit)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

184623

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Multiunit)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	Sample Specific Notes:
FC-CCR-MW08-0522 -01	5/24/2022	9:28	G	W	2	N	N	X			X		X		X	X	X	X	Low Flow
FC-CCR-MW87-0522 -02	5/24/2022	11:55	G	W	2	N		X				X	X		X	X	X	X	Low Flow
FC-CCR-FD04-0522 -03	5/24/2022	17:00	G	W	2	N	N	X				X	X		X	X	X	X	"
FC-CCR-MW52-0522 -04	5/22/2022	13:08	G	W	3	N	Y		X					X					Low Flow, MS + MSD included
FC-CCR-MW61-0522 -05	5/22/2022	14:02	G	W	2	N	N	X			X		X		X	X	X	X	Low Flow
FC-CCR-MW75-0522 -06	5/22/2022	15:06	G	W	2	N	N	X			X		X		X	X	X	X	"
FC-CCR-FD03-0522 -07	5/22/2022	13:08	G	W	1	N	N		X					X					"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	1	1	1	

550-184623 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C 1ℓ PC

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood	05/25/22 07:00	[signature]	[signature]	6-25-22 7:35
[signature]	American Hotshot	5-25-22 14:00			
			Received in Laboratory by: [signature]	EEPA Pay	5-26-22 1400

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34080.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184623-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/8/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW08-0522 (550-184623-1)	5/24/22	09:28 Arizona		Water			X	1	AZ Sample
FC-CCR-MW87-0522 (550-184623-2)	5/24/22	11:55 Arizona		Water			X	1	AZ Sample
FC-CCR-FD04-0522 (550-184623-3)	5/24/22	17:00 Arizona		Water			X	1	AZ Sample
FC-CCR-MW61-0522 (550-184623-5)	5/22/22	14:02 Arizona		Water			X	1	AZ Sample
FC-CCR-MW75-0522 (550-184623-6)	5/22/22	15:06 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	05-25-22 16:20	EETSW	Fedex		
			[signature]	5/26/22 0935	[signature]

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.9 IR/Q CF+0.1

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184623-1
SDG Number: APS Four Corners Power Plant (Multiunit)

Login Number: 184623
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184623-1
SDG Number: APS Four Corners Power Plant (Multiunit)

Login Number: 184623
List Number: 2
Creator: Naylis, Patrick J

List Source: Eurofins Denver
List Creation: 05/26/22 04:07 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184634-1
Laboratory SDG: APS Four Corners Power Plant (Other)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/17/2022 6:20:55 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

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www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184634-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184634-1

Comments
No additional comments.

Receipt
The samples were received on 5/25/2022 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.2º C and 0.4º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): FC-CCR-MW77S-0522 (550-184634-13). The container labels list sample time 12:32, while the COC lists sample time 11:32. Sample time logged as per Chain of Custody.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: FC-CCR-DMX06-0522 (550-184634-2), FC-CCR-MW15-0522 (550-184634-5), FC-CCR-MW21-0522 (550-184634-8), FC-CCR-MW57-0522 (550-184634-11) and FC-CCR-MW82S-0522 (550-184634-17). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix: FC-CCR-MW21-0522 (550-184634-8) and FC-CCR-FD06-0522 (550-184634-10). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: FC-CCR-MW21-0522 (550-184634-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184634-1	FC-CCR-DMX01-0522	Water	05/23/22 15:33	05/25/22 14:00
550-184634-2	FC-CCR-DMX06-0522	Water	05/24/22 13:26	05/25/22 14:00
550-184634-3	FC-CCR-MW01-0522	Water	05/23/22 10:05	05/25/22 14:00
550-184634-4	FC-CCR-MW03-0522	Water	05/23/22 10:50	05/25/22 14:00
550-184634-5	FC-CCR-MW15-0522	Water	05/24/22 14:16	05/25/22 14:00
550-184634-6	FC-CCR-FD05-0522	Water	05/23/22 10:05	05/25/22 14:00
550-184634-7	FC-CCR-MW19-0522	Water	05/23/22 16:30	05/25/22 14:00
550-184634-8	FC-CCR-MW21-0522	Water	05/23/22 11:35	05/25/22 14:00
550-184634-9	FC-CCR-MW30-0522	Water	05/23/22 13:10	05/25/22 14:00
550-184634-10	FC-CCR-FD06-0522	Water	05/23/22 11:35	05/25/22 14:00
550-184634-11	FC-CCR-MW57-0522	Water	05/24/22 10:38	05/25/22 14:00
550-184634-12	FC-CCR-MW60-0522	Water	05/23/22 09:20	05/25/22 14:00
550-184634-13	FC-CCR-MW77S-0522	Water	05/23/22 11:32	05/25/22 14:00
550-184634-14	FC-CCR-MW78S-0522	Water	05/23/22 13:48	05/25/22 14:00
550-184634-15	FC-CCR-MW79S-0522	Water	05/23/22 15:00	05/25/22 14:00
550-184634-16	FC-CCR-MW81-0522	Water	05/23/22 14:28	05/25/22 14:00
550-184634-17	FC-CCR-MW82S-0522	Water	05/23/22 15:58	05/25/22 14:00
550-184634-18	FC-CCR-FD07-0522	Water	05/23/22 11:32	05/25/22 14:00

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX01-0522 — Lab Sample ID: 550-184634-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	66		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0020		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.012		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-DMX06-0522 — Lab Sample ID: 550-184634-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	750	D2	400		mg/L	200		300.0	Total/NA
Sulfate	7500	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.87		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	5.5		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	350		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	540		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	560		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.79		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	41		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2600		2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.010	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00015		0.00010		mg/L	1		200.8 LL	Total/NA
Chromium	0.0021		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.00062		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0038		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0025		0.00050		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	440		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	440		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.47	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.9	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW01-0522 — Lab Sample ID: 550-184634-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	55	M3	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.056		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.025		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW03-0522 — Lab Sample ID: 550-184634-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	8.0		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.00055		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0014		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW15-0522 — Lab Sample ID: 550-184634-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400		mg/L	200		300.0	Total/NA
Sulfate	6500	D2	400		mg/L	200		300.0	Total/NA
Lithium	1.0		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	7.9		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.12		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	680		2.0		mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW15-0522 (Continued) — Lab Sample ID: 550-184634-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.1		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	42		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2300		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.019	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00011		0.00010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0018		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0012		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.0021		0.00050	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	680		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	680		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.50	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.60	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD05-0522 — Lab Sample ID: 550-184634-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	54		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.057		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.025		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW19-0522 — Lab Sample ID: 550-184634-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0031	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0034	D1	0.0010	mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW21-0522 — Lab Sample ID: 550-184634-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.3		0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Cobalt	0.0055	D1	0.0020	mg/L	4		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW30-0522 — Lab Sample ID: 550-184634-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	25		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0013	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0066	D1	0.0010	mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-FD06-0522 — Lab Sample ID: 550-184634-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.90		0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Cobalt	0.0048	D1	0.0020	mg/L	4		200.8 LL	Total/NA
Molybdenum	0.0024	D1	0.0020	mg/L	4		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW57-0522 — Lab Sample ID: 550-184634-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	520	D2	400	mg/L	200		300.0	Total/NA
Sulfate	7500	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.80		0.020	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW57-0522 (Continued) — Lab Sample ID: 550-184634-11

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	1.0		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	400		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.51		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	730		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.26		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	41		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000		2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.017	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0029	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0058	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0020	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	430		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	430		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.77	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	8.50	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-0522 — Lab Sample ID: 550-184634-12

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	57		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.20	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.15	D1	0.0010		mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW77S-0522 — Lab Sample ID: 550-184634-13

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	9.9		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0066	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.017	D1	0.0010		mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW78S-0522 — Lab Sample ID: 550-184634-14

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	1.4		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0033	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0092	D1	0.0010		mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW79S-0522 — Lab Sample ID: 550-184634-15

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	13		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0036	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0070	D1	0.0010		mg/L	2		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW81-0522 — Lab Sample ID: 550-184634-16

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	42		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.022	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0017	D1	0.0010		mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW82S-0522 — Lab Sample ID: 550-184634-17

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	620	D2	400		mg/L	200		300.0	Total/NA
Sulfate	6200	D2	400		mg/L	200		300.0	Total/NA
Boron	52		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	780		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	29		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	0.063	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	310		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	310		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	10000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.40	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	9.40	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD07-0522 — Lab Sample ID: 550-184634-18

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	9.9		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0066	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Molybdenum	0.018	D1	0.0020		mg/L	4		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX01-0522

Lab Sample ID: 550-184634-1
Date Collected: 05/23/22 15:33
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	66		0.050	mg/L		05/26/22 07:07	06/01/22 16:34	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0020		0.00050	mg/L		05/26/22 09:44	06/02/22 17:55	1
Molybdenum	0.012		0.00050	mg/L		05/26/22 09:44	06/02/22 17:55	1

Client Sample ID: FC-CCR-DMX06-0522

Lab Sample ID: 550-184634-2
Date Collected: 05/24/22 13:26
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	750	D2	400	mg/L			05/27/22 21:44	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 20:30	2
Sulfate	7500	D2	400	mg/L			05/27/22 21:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 07:07	06/01/22 16:36	1
Lithium	0.87		0.020	mg/L		06/08/22 06:59	06/11/22 01:46	1
Boron	5.5		0.050	mg/L		05/26/22 07:07	06/01/22 16:36	1
Calcium	350		2.0	mg/L		05/26/22 07:07	06/01/22 16:36	1
Iron	<0.10		0.10	mg/L		05/26/22 07:07	06/01/22 16:36	1
Magnesium	540		2.0	mg/L		05/26/22 07:07	06/01/22 16:36	1
Magnesium	560		2.0	mg/L		05/26/22 07:07	06/02/22 22:49	1
Manganese	0.79		0.010	mg/L		05/26/22 07:07	06/02/22 22:49	1
Potassium	41		0.50	mg/L		05/26/22 07:07	06/02/22 22:49	1
Sodium	2600		2.5	mg/L		05/26/22 07:07	06/02/22 22:25	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:44	06/02/22 17:58	1
Arsenic	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:04	2
Barium	0.010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:04	2
Cadmium	0.00015		0.00010	mg/L		05/26/22 09:44	06/02/22 17:58	1
Chromium	0.0021		0.0010	mg/L		05/26/22 09:44	06/02/22 17:58	1
Cobalt	0.00062		0.00050	mg/L		05/26/22 09:44	06/02/22 17:58	1
Lead	<0.0010	D1	0.0010	mg/L		06/07/22 10:23	06/09/22 20:04	2
Molybdenum	0.0038		0.00050	mg/L		05/26/22 09:44	06/02/22 17:58	1
Selenium	0.0025		0.00050	mg/L		05/26/22 09:44	06/02/22 17:58	1
Thallium	<0.00040	D1	0.00040	mg/L		06/07/22 10:23	06/14/22 11:54	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	440		6.0	mg/L			05/27/22 19:49	1
Bicarbonate Alkalinity as CaCO3	440		6.0	mg/L			05/27/22 19:49	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 19:49	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			05/27/22 19:49	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			05/27/22 19:49	1
Total Dissolved Solids	12000	D2	100	mg/L			05/26/22 12:23	1

Client Sample ID: FC-CCR-DMX06-0522
Lab Sample ID: 550-184634-2

Date Collected: 05/24/22 13:26
Matrix: Water
Date Received: 05/25/22 14:00

General Chemistry (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
pH	7.47	H5	1.68		SU			06/03/22 13:36	1
Temperature	12.9	H5	0.100		Degrees C			06/03/22 13:36	1

Client Sample ID: FC-CCR-MW01-0522
Lab Sample ID: 550-184634-3

Date Collected: 05/23/22 10:05
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	55	M3	0.050		mg/L		05/26/22 07:07	06/01/22 16:23	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.056		0.00050		mg/L		05/26/22 09:44	06/02/22 17:47	1
Molybdenum	0.025		0.00050		mg/L		05/26/22 09:44	06/02/22 17:47	1

Client Sample ID: FC-CCR-MW03-0522
Lab Sample ID: 550-184634-4

Date Collected: 05/23/22 10:50
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	8.0		0.050		mg/L		05/26/22 07:07	06/01/22 16:39	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00055		0.00050		mg/L		05/26/22 09:44	06/02/22 18:00	1
Molybdenum	0.0014		0.00050		mg/L		05/26/22 09:44	06/02/22 18:00	1

Client Sample ID: FC-CCR-MW15-0522
Lab Sample ID: 550-184634-5

Date Collected: 05/24/22 14:16
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1000	D2	400		mg/L			05/26/22 21:38	200
Fluoride	<0.80	D1	0.80		mg/L			05/26/22 20:14	2
Sulfate	6500	D2	400		mg/L			05/26/22 21:38	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 07:07	06/01/22 16:41	1
Lithium	1.0		0.020		mg/L		06/08/22 06:59	06/11/22 01:50	1
Boron	7.9		0.050		mg/L		05/26/22 07:07	06/01/22 16:41	1
Calcium	440		2.0		mg/L		05/26/22 07:07	06/01/22 16:41	1
Iron	0.12		0.10		mg/L		05/26/22 07:07	06/01/22 16:41	1
Magnesium	680		2.0		mg/L		05/26/22 07:07	06/01/22 16:41	1
Manganese	1.1		0.010		mg/L		05/26/22 07:07	06/02/22 22:51	1
Potassium	42		0.50		mg/L		05/26/22 07:07	06/02/22 22:51	1
Sodium	2300		2.5		mg/L		05/26/22 07:07	06/02/22 22:28	5

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW15-0522

Lab Sample ID: 550-184634-5
Date Collected: 05/24/22 14:16
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		05/26/22 09:44	06/02/22 18:02	1
Arsenic	<0.0010	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:06	2
Barium	**0.019**	**D1**	0.0010		mg/L		06/07/22 10:23	06/09/22 20:06	2
Cadmium	**0.00011**		0.00010		mg/L		05/26/22 09:44	06/02/22 18:02	1
Chromium	<0.0010		0.0010		mg/L		05/26/22 09:44	06/02/22 18:02	1
Cobalt	**0.0018**		0.00050		mg/L		05/26/22 09:44	06/02/22 18:02	1
Lead	<0.0010	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:06	2
Molybdenum	**0.0012**		0.00050		mg/L		05/26/22 09:44	06/02/22 18:02	1
Selenium	**0.0021**		0.00050		mg/L		05/26/22 09:44	06/02/22 18:02	1
Thallium	<0.00040	D1	0.00040		mg/L		06/07/22 10:23	06/14/22 11:56	4

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**680**		6.0		mg/L			05/27/22 18:43	1
Bicarbonate Alkalinity as CaCO3	**680**		6.0		mg/L			05/27/22 18:43	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 18:43	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 18:43	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 18:43	1
Total Dissolved Solids	**12000**	**D2**	100		mg/L			05/26/22 10:53	1
pH	**7.50**	**H5**	1.68		SU			06/07/22 11:19	1
Temperature	**8.60**	**H5**	0.100		Degrees C			06/07/22 11:19	1

Client Sample ID: FC-CCR-FD05-0522

Lab Sample ID: 550-184634-6
Date Collected: 05/23/22 10:05
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	**54**		0.050		mg/L		05/26/22 07:07	06/01/22 16:44	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.057**		0.00050		mg/L		05/26/22 09:44	06/02/22 18:04	1
Molybdenum	**0.025**		0.00050		mg/L		05/26/22 09:44	06/02/22 18:04	1

Client Sample ID: FC-CCR-MW19-0522

Lab Sample ID: 550-184634-7
Date Collected: 05/23/22 16:30
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.9**		0.050		mg/L		05/26/22 07:07	06/01/22 16:47	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.0031**	**D1**	0.0010		mg/L		05/26/22 09:44	06/09/22 15:03	2
Molybdenum	**0.0034**	**D1**	0.0010		mg/L		05/26/22 09:44	06/09/22 15:03	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW21-0522

Lab Sample ID: 550-184634-8
Date Collected: 05/23/22 11:35
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.3		0.10	mg/L		05/26/22 07:07	06/02/22 22:46	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0055	D1	0.0020	mg/L		06/07/22 10:23	06/14/22 11:17	4
Molybdenum	<0.0050	D1	0.0050	mg/L		06/07/22 10:23	06/14/22 15:16	10

Client Sample ID: FC-CCR-MW30-0522

Lab Sample ID: 550-184634-9
Date Collected: 05/23/22 13:10
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25		0.050	mg/L		05/26/22 07:07	06/01/22 16:49	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0013	D1	0.0010	mg/L		05/26/22 09:44	06/09/22 15:05	2
Molybdenum	0.0066	D1	0.0010	mg/L		05/26/22 09:44	06/09/22 15:05	2

Client Sample ID: FC-CCR-FD06-0522

Lab Sample ID: 550-184634-10
Date Collected: 05/23/22 11:35
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.90		0.10	mg/L		05/26/22 07:07	06/02/22 22:54	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0048	D1	0.0020	mg/L		05/26/22 09:44	06/09/22 18:30	4
Molybdenum	0.0024	D1	0.0020	mg/L		05/26/22 09:44	06/09/22 18:30	4

Client Sample ID: FC-CCR-MW57-0522

Lab Sample ID: 550-184634-11
Date Collected: 05/24/22 10:38
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	520	D2	400	mg/L			05/27/22 22:02	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 20:48	2
Sulfate	7500	D2	400	mg/L			05/27/22 22:02	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 07:07	06/01/22 17:00	1
Lithium	0.80		0.020	mg/L		06/08/22 06:59	06/11/22 01:54	1
Boron	1.0		0.050	mg/L		05/26/22 07:07	06/01/22 17:00	1
Calcium	400		2.0	mg/L		05/26/22 07:07	06/01/22 17:00	1
Iron	0.51		0.10	mg/L		05/26/22 07:07	06/01/22 17:00	1
Magnesium	730		2.0	mg/L		05/26/22 07:07	06/01/22 17:00	1
Manganese	0.26		0.010	mg/L		05/26/22 07:07	06/02/22 22:57	1

Client Sample ID: FC-CCR-MW57-0522

Lab Sample ID: 550-184634-11

Date Collected: 05/24/22 10:38
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Potassium	41		0.50		mg/L		05/26/22 07:07	06/02/22 22:57	1
Sodium	2000		2.5		mg/L		05/26/22 07:07	06/02/22 22:31	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020		mg/L		06/07/22 10:23	06/09/22 20:08	2
Arsenic	<0.0010	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:08	2
Barium	0.017	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:08	2
Cadmium	<0.00020	D1	0.00020		mg/L		06/07/22 10:23	06/09/22 20:08	2
Chromium	<0.0020	D1	0.0020		mg/L		06/07/22 10:23	06/09/22 20:08	2
Cobalt	0.0029	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:08	2
Lead	<0.0010	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:08	2
Molybdenum	0.0058	D1	0.0010		mg/L		06/07/22 10:23	06/09/22 20:08	2
Selenium	0.0020	D1	0.0010		mg/L		06/07/22 10:23	06/14/22 11:23	2
Thallium	<0.00040	D1	0.00040		mg/L		06/07/22 10:23	06/14/22 11:58	4

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	430		6.0		mg/L			05/27/22 21:04	1
Bicarbonate Alkalinity as CaCO3	430		6.0		mg/L			05/27/22 21:04	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 21:04	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 21:04	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 21:04	1
Total Dissolved Solids	12000	D2	100		mg/L			05/26/22 12:23	1
pH	7.77	H5	1.68		SU			06/07/22 11:19	1
Temperature	8.50	H5	0.100		Degrees C			06/07/22 11:19	1

Client Sample ID: FC-CCR-MW60-0522

Lab Sample ID: 550-184634-12

Date Collected: 05/23/22 09:20
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	57		0.050		mg/L		05/26/22 07:07	06/01/22 17:02	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.20	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 18:32	2
Molybdenum	0.15	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 18:32	2

Client Sample ID: FC-CCR-MW77S-0522

Lab Sample ID: 550-184634-13

Date Collected: 05/23/22 11:32
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.9		0.050		mg/L		05/26/22 07:07	06/01/22 17:05	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0066	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:11	2

Client Sample ID: FC-CCR-MW77S-0522
Lab Sample ID: 550-184634-13
Date Collected: 05/23/22 11:32
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.017	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:11	2

Client Sample ID: FC-CCR-MW78S-0522
Lab Sample ID: 550-184634-14
Date Collected: 05/23/22 13:48
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.4		0.050		mg/L		05/26/22 07:07	06/01/22 17:07	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0033	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:13	2
Molybdenum	0.0092	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:13	2

Client Sample ID: FC-CCR-MW79S-0522
Lab Sample ID: 550-184634-15
Date Collected: 05/23/22 15:00
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	13		0.050		mg/L		05/26/22 07:07	06/01/22 17:10	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0036	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:15	2
Molybdenum	0.0070	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:15	2

Client Sample ID: FC-CCR-MW81-0522
Lab Sample ID: 550-184634-16
Date Collected: 05/23/22 14:28
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	42		0.050		mg/L		05/26/22 07:07	06/01/22 17:13	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.022	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:17	2
Molybdenum	0.0017	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:17	2

Client Sample ID: FC-CCR-MW82S-0522
Lab Sample ID: 550-184634-17
Date Collected: 05/23/22 15:58
Matrix: Water
Date Received: 05/25/22 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	620	D2	400		mg/L			05/27/22 22:20	200
Fluoride	<0.80	D1	0.80		mg/L			05/27/22 21:07	2
Sulfate	6200	D2	400		mg/L			05/27/22 22:20	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW82S-0522

Lab Sample ID: 550-184634-17
Date Collected: 05/23/22 15:58
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	52		0.050		mg/L		05/26/22 07:07	06/01/22 17:15	1
Calcium	430		2.0		mg/L		05/26/22 07:07	06/01/22 17:15	1
Magnesium	780		2.0		mg/L		05/26/22 07:07	06/01/22 17:15	1
Potassium	29		0.50		mg/L		05/26/22 07:07	06/02/22 22:59	1
Sodium	1100		2.5		mg/L		05/26/22 07:07	06/02/22 22:33	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.063	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:20	2
Molybdenum	<0.0010	D1	0.0010		mg/L		05/26/22 09:44	06/09/22 15:20	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	310		6.0		mg/L			05/27/22 21:14	1
Bicarbonate Alkalinity as CaCO3	310		6.0		mg/L			05/27/22 21:14	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 21:14	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 21:14	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 21:14	1
Total Dissolved Solids	10000	D2	100		mg/L			05/26/22 12:23	1
pH	7.40	H5	1.68		SU			06/07/22 11:19	1
Temperature	9.40	H5	0.100		Degrees C			06/07/22 11:19	1

Client Sample ID: FC-CCR-FD07-0522

Lab Sample ID: 550-184634-18
Date Collected: 05/23/22 11:32
Matrix: Water
Date Received: 05/25/22 14:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.9		0.050		mg/L		05/26/22 07:07	06/01/22 17:18	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0066	D1	0.0020		mg/L		05/26/22 09:44	06/09/22 15:31	4
Molybdenum	0.018	D1	0.0020		mg/L		05/26/22 09:44	06/09/22 15:31	4

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275350/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275350

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/26/22 10:53	1
Fluoride	<0.40		0.40		mg/L			05/26/22 10:53	1
Sulfate	<2.0		2.0		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275350/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275350

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	4.02		mg/L		101	90 - 110		
Sulfate			20.0	20.2		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-275350/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275350

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.02		mg/L		101	90 - 110	0	20
Sulfate			20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-184642-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275350

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	7.8		20.0	30.1		mg/L		112	80 - 120		
Fluoride	<0.40		4.00	4.24		mg/L		103	80 - 120		
Sulfate	18		20.0	38.1		mg/L		103	80 - 120		

Lab Sample ID: 550-184642-B-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275350

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7.8		20.0	30.2		mg/L		112	80 - 120	0	20
Fluoride	<0.40		4.00	4.26		mg/L		103	80 - 120	0	20
Sulfate	18		20.0	38.2		mg/L		103	80 - 120	0	20

Lab Sample ID: MB 550-275464/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275464

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/27/22 10:41	1
Fluoride	<0.40		0.40		mg/L			05/27/22 10:41	1
Sulfate	<2.0		2.0		mg/L			05/27/22 10:41	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-275464/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275464

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.04		mg/L		101	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-275464/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275464

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.04		mg/L		101	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-184742-A-1 MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275464

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	34	D2	100	144	D2	mg/L		110	80 - 120
Fluoride	2.3	D1	20.0	22.7	D1	mg/L		102	80 - 120
Sulfate	370	D2	100	465	D2	mg/L		95	80 - 120

Lab Sample ID: 550-184742-A-1 MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275464

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	34	D2	100	144	D2	mg/L		110	80 - 120	0	20
Fluoride	2.3	D1	20.0	22.8	D1	mg/L		103	80 - 120	1	20
Sulfate	370	D2	100	464	D2	mg/L		94	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275220/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275779 — **Prep Batch: 275220**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010	mg/L		05/26/22 07:07	06/01/22 16:08	1
Boron	<0.050		0.050	mg/L		05/26/22 07:07	06/01/22 16:08	1
Calcium	<2.0		2.0	mg/L		05/26/22 07:07	06/01/22 16:08	1
Iron	<0.10		0.10	mg/L		05/26/22 07:07	06/01/22 16:08	1
Magnesium	<2.0		2.0	mg/L		05/26/22 07:07	06/01/22 16:08	1
Sodium	<0.50		0.50	mg/L		05/26/22 07:07	06/01/22 16:08	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-275220/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275997 — **Prep Batch: 275220**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		05/26/22 07:07	06/02/22 22:10	1
Boron	<0.050		0.050		mg/L		05/26/22 07:07	06/02/22 22:10	1
Calcium	<2.0		2.0		mg/L		05/26/22 07:07	06/02/22 22:10	1
Iron	<0.10		0.10		mg/L		05/26/22 07:07	06/02/22 22:10	1
Magnesium	<2.0		2.0		mg/L		05/26/22 07:07	06/02/22 22:10	1
Manganese	<0.010		0.010		mg/L		05/26/22 07:07	06/02/22 22:10	1
Potassium	<0.50		0.50		mg/L		05/26/22 07:07	06/02/22 22:10	1
Sodium	<0.50		0.50		mg/L		05/26/22 07:07	06/02/22 22:10	1

Lab Sample ID: LCS 550-275220/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275779 — **Prep Batch: 275220**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	0.968		mg/L		97	85 - 115		
Boron			1.00	0.984		mg/L		98	85 - 115		
Calcium			21.0	19.6		mg/L		93	85 - 115		
Iron			1.00	0.925		mg/L		93	85 - 115		
Magnesium			21.0	19.8		mg/L		94	85 - 115		
Sodium			20.0	19.6		mg/L		98	85 - 115		

Lab Sample ID: LCS 550-275220/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275997 — **Prep Batch: 275220**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	1.02		mg/L		102	85 - 115		
Boron			1.00	1.01		mg/L		101	85 - 115		
Calcium			21.0	21.1		mg/L		100	85 - 115		
Iron			1.00	0.959		mg/L		96	85 - 115		
Magnesium			21.0	20.8		mg/L		99	85 - 115		
Manganese			1.00	0.963		mg/L		96	85 - 115		
Potassium			20.0	19.9		mg/L		99	85 - 115		
Sodium			20.0	20.1		mg/L		100	85 - 115		

Lab Sample ID: LCSD 550-275220/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275779 — **Prep Batch: 275220**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.04		mg/L		104	85 - 115	7	20
Boron			1.00	0.989		mg/L		99	85 - 115	0	20
Calcium			21.0	20.8		mg/L		99	85 - 115	6	20
Iron			1.00	0.993		mg/L		99	85 - 115	7	20
Magnesium			21.0	21.0		mg/L		100	85 - 115	6	20
Sodium			20.0	20.7		mg/L		103	85 - 115	5	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-275220/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275997 — **Prep Batch: 275220**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.06		mg/L		106	85 - 115	4	20
Boron			1.00	1.00		mg/L		100	85 - 115	0	20
Calcium			21.0	21.8		mg/L		104	85 - 115	3	20
Iron			1.00	1.01		mg/L		101	85 - 115	5	20
Magnesium			21.0	21.5		mg/L		103	85 - 115	3	20
Manganese			1.00	0.974		mg/L		97	85 - 115	1	20
Potassium			20.0	20.6		mg/L		103	85 - 115	3	20
Sodium			20.0	20.7		mg/L		104	85 - 115	3	20

Lab Sample ID: 550-184634-3 MS — **Client Sample ID: FC-CCR-MW01-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275779 — **Prep Batch: 275220**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron	55	M3	1.00	52.6	M3	mg/L		-225	70 - 130		

Lab Sample ID: 550-184634-3 MSD — **Client Sample ID: FC-CCR-MW01-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275779 — **Prep Batch: 275220**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	55	M3	1.00	53.2	M3	mg/L		-170	70 - 130	1	20

Lab Sample ID: MB 280-577344/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/08/22 06:59	06/11/22 00:54	1

Lab Sample ID: LCS 280-577344/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	1.02		mg/L		102	90 - 112		

Lab Sample ID: LCSD 280-577344/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	1.02		mg/L		102	90 - 112	0	20

Lab Sample ID: 280-162601-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.055		1.00	1.06		mg/L		101	70 - 130		

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 280-162601-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 577835 — **Prep Batch: 577344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.055		1.00	1.07		mg/L		101	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-275260/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275903 — **Prep Batch: 275260**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/26/22 09:44	06/02/22 17:36	1
Cadmium	<0.00010		0.00010	mg/L		05/26/22 09:44	06/02/22 17:36	1
Chromium	<0.0010		0.0010	mg/L		05/26/22 09:44	06/02/22 17:36	1
Cobalt	<0.00050		0.00050	mg/L		05/26/22 09:44	06/02/22 17:36	1
Molybdenum	<0.00050		0.00050	mg/L		05/26/22 09:44	06/02/22 17:36	1
Selenium	<0.00050		0.00050	mg/L		05/26/22 09:44	06/02/22 17:36	1

Lab Sample ID: LCS 550-275260/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275903 — **Prep Batch: 275260**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0932		mg/L		93	85 - 115
Cadmium	0.100	0.0924		mg/L		92	85 - 115
Chromium	0.100	0.101		mg/L		101	85 - 115
Cobalt	0.100	0.0991		mg/L		99	85 - 115
Molybdenum	0.100	0.0947		mg/L		95	85 - 115
Selenium	0.100	0.0985		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-275260/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275903 — **Prep Batch: 275260**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0925		mg/L		93	85 - 115	1	20
Cadmium	0.100	0.0921		mg/L		92	85 - 115	0	20
Chromium	0.100	0.0994		mg/L		99	85 - 115	2	20
Cobalt	0.100	0.0974		mg/L		97	85 - 115	2	20
Molybdenum	0.100	0.0941		mg/L		94	85 - 115	1	20
Selenium	0.100	0.0951		mg/L		95	85 - 115	4	20

Lab Sample ID: 550-184634-3 MS — **Client Sample ID: FC-CCR-MW01-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275903 — **Prep Batch: 275260**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.056		0.100	0.148		mg/L		92	70 - 130
Molybdenum	0.025		0.100	0.126		mg/L		102	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184634-3 MSD — **Client Sample ID: FC-CCR-MW01-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275903 — **Prep Batch: 275260**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.056		0.100	0.146		mg/L		90	70 - 130	2	20
Molybdenum	0.025		0.100	0.125		mg/L		100	70 - 130	1	20

Lab Sample ID: MB 550-276186/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		06/07/22 10:23	06/09/22 19:52	1
Arsenic	<0.00050		0.00050		mg/L		06/07/22 10:23	06/09/22 19:52	1
Barium	<0.00050		0.00050		mg/L		06/07/22 10:23	06/09/22 19:52	1
Cadmium	<0.00010		0.00010		mg/L		06/07/22 10:23	06/09/22 19:52	1
Chromium	<0.0010		0.0010		mg/L		06/07/22 10:23	06/09/22 19:52	1
Cobalt	<0.00050		0.00050		mg/L		06/07/22 10:23	06/09/22 19:52	1
Lead	<0.00050		0.00050		mg/L		06/07/22 10:23	06/09/22 19:52	1
Molybdenum	<0.00050		0.00050		mg/L		06/07/22 10:23	06/09/22 19:52	1

Lab Sample ID: MB 550-276186/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.00050		0.00050		mg/L		06/07/22 10:23	06/14/22 11:06	1
Thallium	<0.00010		0.00010		mg/L		06/07/22 10:23	06/14/22 11:06	1

Lab Sample ID: LCS 550-276186/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0881		mg/L		88	85 - 115
Arsenic	0.100	0.0954		mg/L		95	85 - 115
Barium	0.100	0.0985		mg/L		99	85 - 115
Cadmium	0.100	0.0942		mg/L		94	85 - 115
Chromium	0.100	0.0967		mg/L		97	85 - 115
Cobalt	0.100	0.0969		mg/L		97	85 - 115
Lead	0.100	0.0934		mg/L		93	85 - 115
Molybdenum	0.100	0.0950		mg/L		95	85 - 115

Lab Sample ID: LCS 550-276186/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.109		mg/L		109	85 - 115
Thallium	0.100	0.102		mg/L		102	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-276186/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276684 — **Prep Batch: 276186**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0960		mg/L		96	85 - 115	9	20
Arsenic	0.100	0.103		mg/L		103	85 - 115	7	20
Barium	0.100	0.109		mg/L		109	85 - 115	10	20
Cadmium	0.100	0.102		mg/L		102	85 - 115	8	20
Chromium	0.100	0.104		mg/L		104	85 - 115	7	20
Cobalt	0.100	0.105		mg/L		105	85 - 115	8	20
Lead	0.100	0.102		mg/L		102	85 - 115	8	20
Molybdenum	0.100	0.104		mg/L		104	85 - 115	9	20

Lab Sample ID: LCSD 550-276186/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.106		mg/L		106	85 - 115	3	20
Thallium	0.100	0.0996		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-184634-8 MS — **Client Sample ID: FC-CCR-MW21-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.0055	D1	0.100	0.114	D1	mg/L		108	70 - 130

Lab Sample ID: 550-184634-8 MS — **Client Sample ID: FC-CCR-MW21-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276873 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Molybdenum	<0.0050	D1	0.100	0.105	D1	mg/L		102	70 - 130

Lab Sample ID: 550-184634-8 MSD — **Client Sample ID: FC-CCR-MW21-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276831 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.0055	D1	0.100	0.116	D1	mg/L		111	70 - 130	2	20

Lab Sample ID: 550-184634-8 MSD — **Client Sample ID: FC-CCR-MW21-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276873 — **Prep Batch: 276186**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Molybdenum	<0.0050	D1	0.100	0.107	D1	mg/L		104	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-275562/27
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 20:09	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 20:09	1

Lab Sample ID: MB 550-275562/5
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			05/27/22 17:08	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			05/27/22 17:08	1

Lab Sample ID: LCS 550-275562/26
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	256		mg/L		102	90 - 110		

Lab Sample ID: LCS 550-275562/4
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	253		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-275562/13
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	252		mg/L		101	90 - 110	0	20

Lab Sample ID: LCSD 550-275562/37
Matrix: Water
Analysis Batch: 275562

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	255		mg/L		102	90 - 110	0	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-184624-W-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	110			110		mg/L				0.4	20
Bicarbonate Alkalinity as CaCO3	110			110		mg/L				0.4	20
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Lab Sample ID: 550-184648-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275562

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	270			264		mg/L				0.5	20
Bicarbonate Alkalinity as CaCO3	270			264		mg/L				0.5	20
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275274/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 10:53	1

Lab Sample ID: LCS 550-275274/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	986		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-275274/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	970		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-184630-A-4 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275274

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	8300	D2		8170	D2	mg/L				2	10

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: MB 550-275298/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/26/22 12:23	1

Lab Sample ID: LCS 550-275298/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110		

Lab Sample ID: LCSD 550-275298/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	934		mg/L		93	90 - 110	7	10

Lab Sample ID: 550-184634-17 DU — **Client Sample ID: FC-CCR-MW82S-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275298

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000	D2		10100	D2	mg/L				0.3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-275986/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.907		SU		98.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275986/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.896		SU		98.5	98.5 - 101.5		

Lab Sample ID: 550-184630-A-13 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.31	H5		7.241	H5	SU				1	5
Temperature	10.7	H5		10.30	H5	Degrees C				4	

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-276198/1
Matrix: Water
Analysis Batch: 276198

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.920		SU		98.9	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-276198/13
Matrix: Water
Analysis Batch: 276198

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.930		SU		99.0	98.5 - 101.5		

Lab Sample ID: 550-184634-5 DU
Matrix: Water
Analysis Batch: 276198

Client Sample ID: FC-CCR-MW15-0522
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.50	H5		7.520	H5	SU				0.3	5
Temperature	8.60	H5		9.400	H5	Degrees C				9	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

HPLC/IC

Analysis Batch: 275350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	300.0	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	300.0	
MB 550-275350/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275350/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275350/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184642-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-184642-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 275464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	300.0	
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	300.0	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	300.0	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	300.0	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	300.0	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	300.0	
MB 550-275464/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275464/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275464/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184742-A-1 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-184742-A-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 275220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-1	FC-CCR-DMX01-0522	Total/NA	Water	200.7	
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7	
550-184634-3	FC-CCR-MW01-0522	Total/NA	Water	200.7	
550-184634-4	FC-CCR-MW03-0522	Total/NA	Water	200.7	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7	
550-184634-6	FC-CCR-FD05-0522	Total/NA	Water	200.7	
550-184634-7	FC-CCR-MW19-0522	Total/NA	Water	200.7	
550-184634-8	FC-CCR-MW21-0522	Total/NA	Water	200.7	
550-184634-9	FC-CCR-MW30-0522	Total/NA	Water	200.7	
550-184634-10	FC-CCR-FD06-0522	Total/NA	Water	200.7	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7	
550-184634-12	FC-CCR-MW60-0522	Total/NA	Water	200.7	
550-184634-13	FC-CCR-MW77S-0522	Total/NA	Water	200.7	
550-184634-14	FC-CCR-MW78S-0522	Total/NA	Water	200.7	
550-184634-15	FC-CCR-MW79S-0522	Total/NA	Water	200.7	
550-184634-16	FC-CCR-MW81-0522	Total/NA	Water	200.7	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.7	
550-184634-18	FC-CCR-FD07-0522	Total/NA	Water	200.7	
MB 550-275220/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275220/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275220/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184634-3 MS	FC-CCR-MW01-0522	Total/NA	Water	200.7	
550-184634-3 MSD	FC-CCR-MW01-0522	Total/NA	Water	200.7	
550-184634-8 MS	FC-CCR-MW21-0522	Total/NA	Water	200.7	
550-184634-8 MSD	FC-CCR-MW21-0522	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Metals

Prep Batch: 275260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-1	FC-CCR-DMX01-0522	Total/NA	Water	200.8	
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.8	
550-184634-3	FC-CCR-MW01-0522	Total/NA	Water	200.8	
550-184634-4	FC-CCR-MW03-0522	Total/NA	Water	200.8	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.8	
550-184634-6	FC-CCR-FD05-0522	Total/NA	Water	200.8	
550-184634-7	FC-CCR-MW19-0522	Total/NA	Water	200.8	
550-184634-9	FC-CCR-MW30-0522	Total/NA	Water	200.8	
550-184634-10	FC-CCR-FD06-0522	Total/NA	Water	200.8	
550-184634-12	FC-CCR-MW60-0522	Total/NA	Water	200.8	
550-184634-13	FC-CCR-MW77S-0522	Total/NA	Water	200.8	
550-184634-14	FC-CCR-MW78S-0522	Total/NA	Water	200.8	
550-184634-15	FC-CCR-MW79S-0522	Total/NA	Water	200.8	
550-184634-16	FC-CCR-MW81-0522	Total/NA	Water	200.8	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.8	
550-184634-18	FC-CCR-FD07-0522	Total/NA	Water	200.8	
MB 550-275260/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275260/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275260/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184634-3 MS	FC-CCR-MW01-0522	Total/NA	Water	200.8	
550-184634-3 MSD	FC-CCR-MW01-0522	Total/NA	Water	200.8	

Analysis Batch: 275779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-1	FC-CCR-DMX01-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-3	FC-CCR-MW01-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-4	FC-CCR-MW03-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-6	FC-CCR-FD05-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-7	FC-CCR-MW19-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-9	FC-CCR-MW30-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-12	FC-CCR-MW60-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-13	FC-CCR-MW77S-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-14	FC-CCR-MW78S-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-15	FC-CCR-MW79S-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-16	FC-CCR-MW81-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-18	FC-CCR-FD07-0522	Total/NA	Water	200.7 Rev 4.4	275220
MB 550-275220/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275220
LCS 550-275220/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275220
LCSD 550-275220/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-3 MS	FC-CCR-MW01-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-3 MSD	FC-CCR-MW01-0522	Total/NA	Water	200.7 Rev 4.4	275220

Analysis Batch: 275903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-1	FC-CCR-DMX01-0522	Total/NA	Water	200.8 LL	275260
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.8 LL	275260
550-184634-3	FC-CCR-MW01-0522	Total/NA	Water	200.8 LL	275260

Metals (Continued)

Analysis Batch: 275903 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-4	FC-CCR-MW03-0522	Total/NA	Water	200.8 LL	275260
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.8 LL	275260
550-184634-6	FC-CCR-FD05-0522	Total/NA	Water	200.8 LL	275260
MB 550-275260/1-A	Method Blank	Total/NA	Water	200.8 LL	275260
LCS 550-275260/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275260
LCSD 550-275260/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275260
550-184634-3 MS	FC-CCR-MW01-0522	Total/NA	Water	200.8 LL	275260
550-184634-3 MSD	FC-CCR-MW01-0522	Total/NA	Water	200.8 LL	275260

Analysis Batch: 275997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-8	FC-CCR-MW21-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-10	FC-CCR-FD06-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.7 Rev 4.4	275220
MB 550-275220/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275220
LCS 550-275220/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275220
LCSD 550-275220/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-8 MS	FC-CCR-MW21-0522	Total/NA	Water	200.7 Rev 4.4	275220
550-184634-8 MSD	FC-CCR-MW21-0522	Total/NA	Water	200.7 Rev 4.4	275220

Prep Batch: 276186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.8	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.8	
550-184634-8	FC-CCR-MW21-0522	Total/NA	Water	200.8	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.8	
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184634-8 MS	FC-CCR-MW21-0522	Total/NA	Water	200.8	
550-184634-8 MSD	FC-CCR-MW21-0522	Total/NA	Water	200.8	

Analysis Batch: 276505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-7	FC-CCR-MW19-0522	Total/NA	Water	200.8 LL	275260
550-184634-9	FC-CCR-MW30-0522	Total/NA	Water	200.8 LL	275260
550-184634-13	FC-CCR-MW77S-0522	Total/NA	Water	200.8 LL	275260
550-184634-14	FC-CCR-MW78S-0522	Total/NA	Water	200.8 LL	275260
550-184634-15	FC-CCR-MW79S-0522	Total/NA	Water	200.8 LL	275260
550-184634-16	FC-CCR-MW81-0522	Total/NA	Water	200.8 LL	275260
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	200.8 LL	275260
550-184634-18	FC-CCR-FD07-0522	Total/NA	Water	200.8 LL	275260

Metals

Analysis Batch: 276681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-10	FC-CCR-FD06-0522	Total/NA	Water	200.8 LL	275260
550-184634-12	FC-CCR-MW60-0522	Total/NA	Water	200.8 LL	275260

Analysis Batch: 276684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.8 LL	276186
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.8 LL	276186
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.8 LL	276186
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8 LL	276186
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276186
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276186

Analysis Batch: 276831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.8 LL	276186
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.8 LL	276186
550-184634-8	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.8 LL	276186
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.8 LL	276186
MB 550-276186/1-A	Method Blank	Total/NA	Water	200.8 LL	276186
LCS 550-276186/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	276186
LCSD 550-276186/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	276186
550-184634-8 MS	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186
550-184634-8 MSD	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186

Analysis Batch: 276873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-8	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186
550-184634-8 MS	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186
550-184634-8 MSD	FC-CCR-MW21-0522	Total/NA	Water	200.8 LL	276186

Prep Batch: 577344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7	
MB 280-577344/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577344/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-577344/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-162601-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-162601-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 577835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	200.7 Rev 4.4	577344
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	200.7 Rev 4.4	577344
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	200.7 Rev 4.4	577344
MB 280-577344/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577344
LCS 280-577344/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577344
LCSD 280-577344/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	577344
280-162601-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577344

Metals (Continued)

Analysis Batch: 577835 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-162601-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577344

General Chemistry

Analysis Batch: 275274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	SM 2540C	
MB 550-275274/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275274/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275274/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184630-A-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	SM 2540C	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	SM 2540C	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	SM 2540C	
MB 550-275298/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275298/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275298/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184634-17 DU	FC-CCR-MW82S-0522	Total/NA	Water	SM 2540C	

Analysis Batch: 275562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	SM 2320B	
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	SM 2320B	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	SM 2320B	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	SM 2320B	
MB 550-275562/27	Method Blank	Total/NA	Water	SM 2320B	
MB 550-275562/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-275562/26	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-275562/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-275562/13	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-275562/37	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-184624-W-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-184648-E-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 275986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-2	FC-CCR-DMX06-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184630-A-13 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 276198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-5	FC-CCR-MW15-0522	Total/NA	Water	SM 4500 H+ B	
550-184634-11	FC-CCR-MW57-0522	Total/NA	Water	SM 4500 H+ B	
550-184634-17	FC-CCR-MW82S-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 276198 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184634-5 DU	FC-CCR-MW15-0522	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX01-0522 — Lab Sample ID: 550-184634-1

Date Collected: 05/23/22 15:33 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:34	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 17:55	ARE	TAL PHX

Client Sample ID: FC-CCR-DMX06-0522 — Lab Sample ID: 550-184634-2

Date Collected: 05/24/22 13:26 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 20:30	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 21:44	AS1	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:36	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275997	06/02/22 22:25	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275997	06/02/22 22:49	MGM	TAL PHX
Total/NA	Prep	200.7			577344	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/11/22 01:46	MAB	TAL DEN
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 17:58	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:04	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276831	06/14/22 11:54	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 19:49	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 13:36	CXK	TAL PHX

Client Sample ID: FC-CCR-MW01-0522 — Lab Sample ID: 550-184634-3

Date Collected: 05/23/22 10:05 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:23	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 17:47	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW03-0522

Lab Sample ID: 550-184634-4
Date Collected: 05/23/22 10:50
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:39	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 18:00	ARE	TAL PHX

Client Sample ID: FC-CCR-MW15-0522

Lab Sample ID: 550-184634-5
Date Collected: 05/24/22 14:16
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275350	05/26/22 20:14	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275350	05/26/22 21:38	AS1	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:41	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275997	06/02/22 22:28	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275997	06/02/22 22:51	MGM	TAL PHX
Total/NA	Prep	200.7			577344	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/11/22 01:50	MAB	TAL DEN
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 18:02	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:06	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276831	06/14/22 11:56	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 18:43	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275274		CHS	TAL PHX
					(Start)	05/26/22 10:53		
					(End)	05/26/22 14:30		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Client Sample ID: FC-CCR-FD05-0522

Lab Sample ID: 550-184634-6
Date Collected: 05/23/22 10:05
Matrix: Water
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:44	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	275903	06/02/22 18:04	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW19-0522 — Lab Sample ID: 550-184634-7

Date Collected: 05/23/22 16:30 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:47	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:03	ARE	TAL PHX

Client Sample ID: FC-CCR-MW21-0522 — Lab Sample ID: 550-184634-8

Date Collected: 05/23/22 11:35 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275997	06/02/22 22:46	MGM	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276831	06/14/22 11:17	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	276873	06/14/22 15:16	ARE	TAL PHX

Client Sample ID: FC-CCR-MW30-0522 — Lab Sample ID: 550-184634-9

Date Collected: 05/23/22 13:10 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 16:49	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:05	ARE	TAL PHX

Client Sample ID: FC-CCR-FD06-0522 — Lab Sample ID: 550-184634-10

Date Collected: 05/23/22 11:35 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275997	06/02/22 22:54	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276681	06/09/22 18:30	ARE	TAL PHX

Client Sample ID: FC-CCR-MW57-0522 — Lab Sample ID: 550-184634-11

Date Collected: 05/24/22 10:38 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 20:48	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 22:02	AS1	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:00	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW57-0522 — Lab Sample ID: 550-184634-11

Date Collected: 05/24/22 10:38 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275997	06/02/22 22:31	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275997	06/02/22 22:57	MGM	TAL PHX
Total/NA	Prep	200.7			577344	06/08/22 06:59	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	577835	06/11/22 01:54	MAB	TAL DEN
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276684	06/09/22 20:08	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276831	06/14/22 11:23	ARE	TAL PHX
Total/NA	Prep	200.8			276186	06/07/22 10:23	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276831	06/14/22 11:58	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 21:04	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Client Sample ID: FC-CCR-MW60-0522 — Lab Sample ID: 550-184634-12

Date Collected: 05/23/22 09:20 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:02	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276681	06/09/22 18:32	ARE	TAL PHX

Client Sample ID: FC-CCR-MW77S-0522 — Lab Sample ID: 550-184634-13

Date Collected: 05/23/22 11:32 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:05	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:11	ARE	TAL PHX

Client Sample ID: FC-CCR-MW78S-0522 — Lab Sample ID: 550-184634-14

Date Collected: 05/23/22 13:48 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:07	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW78S-0522 — Lab Sample ID: 550-184634-14

Date Collected: 05/23/22 13:48 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:13	ARE	TAL PHX

Client Sample ID: FC-CCR-MW79S-0522 — Lab Sample ID: 550-184634-15

Date Collected: 05/23/22 15:00 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:10	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:15	ARE	TAL PHX

Client Sample ID: FC-CCR-MW81-0522 — Lab Sample ID: 550-184634-16

Date Collected: 05/23/22 14:28 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:13	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:17	ARE	TAL PHX

Client Sample ID: FC-CCR-MW82S-0522 — Lab Sample ID: 550-184634-17

Date Collected: 05/23/22 15:58 — **Matrix: Water**
Date Received: 05/25/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 21:07	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 22:20	AS1	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:15	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275997	06/02/22 22:33	MGM	TAL PHX
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275997	06/02/22 22:59	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276505	06/09/22 15:20	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275562	05/27/22 21:14	CHS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275298		CHS	TAL PHX
					(Start)	05/26/22 12:23		
					(End)	05/27/22 14:48		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-FD07-0522

Date Collected: 05/23/22 11:32
Date Received: 05/25/22 14:00

Lab Sample ID: 550-184634-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275220	05/26/22 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275779	06/01/22 17:18	MGM	TAL PHX
Total/NA	Prep	200.8			275260	05/26/22 09:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276505	06/09/22 15:31	ARE	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184634-1
SDG: APS Four Corners Power Plant (Other)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

184634

Chain of Custody Record

550-184634 Chain of Custody

erica
IENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 3 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Fe)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as	Sample Specific Notes
FC-CCR-DMX01-0522 -01	5/23/2022	15:33	G	W	1	N			X							X					Low Flow
FC-CCR-DMX06-0522 -02	5/24/2022	13:26	G	W	2	N		X						X	X			X	X	X	"
FC-CCR-MW01-0522 -03	5/23/2022	10:05	G	W	3	N	Y		X							X					Low Flow, MS + MSD included
FC-CCR-MW03-0522 -04	5/23/2022	10:50	G	W	1	N			X							X					Low Flow
FC-CCR-MW15-0522 -05	5/24/2022	14:16	G	W	2	N		X						X	X			X	X	X	"
FC-CCR-FD05-0522 -06	5/23/2022	10:05	G	W	1	N			X							X					"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	4	4	4	4	4	4	4	4	4	1	1	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C, 0.4°C 1LF PL

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood	05/25/22 09:00	[signature]	American Hotshot	6-25-22 7:35
[signature]	American Hotshot	5-25-22 14:00			
			Received in Laboratory by: [signature]	Company: Eco Dry	5-25-22 1400

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

6/17/2022

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

184634

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 3 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	Sample Specific Notes:
FC-CCR-MW19-0522 -07	5/23/2022	16:30	G	W	1	N	N		X							X					Low Flow
FC-CCR-MW21-0522 -08	5/23/2022	11:35	G	W	3	N	Y		X							X					Low Flow, MS + MSD included
FC-CCR-MW30-0522 -09	5/23/2022	13:10	G	W	1	N	N		X							X					Low Flow
FC-CCR-FD06-0522 -10	5/23/2022	11:35	G	W	1	N	N		X							X					"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	4	4	4	4	4	4	4	4	4	1	1	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.3°C, 0.4°C ICE PC

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WDC	05/25/22 07:00	[signature]	American Hotshot	5-25-22 7:35
Relinquished by: [signature]	Company: American Hotshot	Date/Time: 5-25-22 14:00	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: Estrella	Date/Time: 5-25-22 1400

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

184634

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

6/17/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	3 of 3 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Mn, Fe)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as				Sample Specific Notes:
FC-CCR-MW57-0522 -11	5/24/2022	10:38	G	W	2	N		X						X	X			X	X	X				Low Flow
FC-CCR-MW60-0522 -12	5/23/2022	9:20	G	W	1	N			X							X								"
FC-CCR-MW77S-0522 -13	5/23/2022	11:32	G	W	1	N			X							X								"
FC-CCR-MW78S-0522 -14	5/23/2022	13:48	G	W	1	N	N		X							X								"
FC-CCR-MW79S-0522 -15	5/23/2022	15:00	G	W	1	N			X							X								"
FC-CCR-MW81-0522 -16	5/23/2022	14:28	G	W	1	N			X							X								"
FC-CCR-MW82S-0522 -17	5/23/2022	15:58	G	W	2	N		X				X				X		X	X	X				Port Sample
FC-CCR-FD07-0522 -18	5/23/2022	11:32	G	W	1	N	N		X							X								Low Flow
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	4	4	1	1	1				

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☑ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C, 0.4°C IUF PL

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Wood	05/25/22 07:00		American Hotshot	5-25-22 7:35
Relinquished by:	Company: American Hotshot	Date/Time: 5-25-22 14:00	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EEM PHX	Date/Time: 5-26-22 1400

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34095.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184634-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/8/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Four Corners CCR	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-DMX06-0522 (550-184634-2)	5/24/22	13:26 Arizona		Water			X	1	AZ Sample
FC-CCR-MW15-0522 (550-184634-5)	5/23/22	14:16 Arizona		Water			X	1	AZ Sample
FC-CCR-MW57-0522 (550-184634-11)	5/24/22	10:38 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible]	5-24-22 1500	EEM DMX	EEM RX		
Relinquished by: FedEx	Date/Time:	Company	Received by: [illegible]	Date/Time: 5/27/22 1000	Company ETAZW
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 8.2 7 IR12 CF10.1

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184634-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 184634
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184634-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 184634
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 05/28/22 09:45 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184772-1
Laboratory SDG: APS Four Corners Power Plant (Other)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/17/2022 12:35:33 PM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
B7	Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above the concentration found in the blank.
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184772-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative

Job Narrative
550-184772-1

Comments
No additional comments.

Receipt
The samples were received on 5/27/2022 2:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.2º C, 0.6º C and 0.8º C.

HPLC/IC
Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 550-275566 were outside control limits for Chloride. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 550-275567 were outside control limits for Fluoride, Chloride and Sulfate. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recoveries were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-275780 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. FC-CCR-MW17R-0522 (550-184772-7), FC-CCR-MW18-0522 (550-184772-8), FC-CCR-MW23R-0522 (550-184772-9), FC-CCR-MW24-0522 (550-184772-10), FC-CCR-MW36R-0522 (550-184772-11) and FC-CCR-MW38R-0522 (550-184772-12)

Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-275782 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. FC-CCR-DMX03-0522 (550-184772-1), FC-CCR-DMX04-0522 (550-184772-2), FC-CCR-MW05-0522 (550-184772-3), FC-CCR-MW06-0522 (550-184772-4) and FC-CCR-MW16-0522 (550-184772-6).

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: FC-CCR-MW17R-0522 (550-184772-7), FC-CCR-MW18-0522 (550-184772-8), FC-CCR-MW23R-0522 (550-184772-9), FC-CCR-MW24-0522 (550-184772-10), FC-CCR-MW36R-0522 (550-184772-11) and FC-CCR-MW38R-0522 (550-184772-12). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184772-1	FC-CCR-DMX03-0522	Water	05/25/22 11:25	05/27/22 14:05
550-184772-2	FC-CCR-DMX04-0522	Water	05/25/22 13:50	05/27/22 14:05
550-184772-3	FC-CCR-MW05-0522	Water	05/25/22 12:15	05/27/22 14:05
550-184772-4	FC-CCR-MW06-0522	Water	05/25/22 15:30	05/27/22 14:05
550-184772-5	FC-CCR-MW11-0522	Water	05/26/22 12:28	05/27/22 14:05
550-184772-6	FC-CCR-MW16-0522	Water	05/26/22 14:15	05/27/22 14:05
550-184772-7	FC-CCR-MW17R-0522	Water	05/25/22 16:25	05/27/22 14:05
550-184772-8	FC-CCR-MW18-0522	Water	05/25/22 13:05	05/27/22 14:05
550-184772-9	FC-CCR-MW23R-0522	Water	05/25/22 09:58	05/27/22 14:05
550-184772-10	FC-CCR-MW24-0522	Water	05/25/22 14:50	05/27/22 14:05
550-184772-11	FC-CCR-MW36R-0522	Water	05/25/22 10:40	05/27/22 14:05
550-184772-12	FC-CCR-MW38R-0522	Water	05/25/22 17:25	05/27/22 14:05
550-184772-13	FC-CCR-SUMP1-0522	Water	05/26/22 08:00	05/27/22 14:05
550-184772-14	FC-CCR-SUMP2-0522	Water	05/26/22 08:11	05/27/22 14:05
550-184772-15	FC-CCR-SUMP3-0522	Water	05/26/22 08:30	05/27/22 14:05
550-184772-16	FC-CCR-SUMP7-0522	Water	05/26/22 08:38	05/27/22 14:05
550-184772-17	FC-CCR-SUMP9-0522	Water	05/26/22 08:48	05/27/22 14:05
550-184772-18	FC-CCR-SUMP10-0522	Water	05/26/22 09:00	05/27/22 14:05
550-184772-19	FC-CCR-SUMP11-0522	Water	05/26/22 09:08	05/27/22 14:05
550-184772-20	FC-CCR-SUMP12-0522	Water	05/26/22 09:18	05/27/22 14:05
550-184772-21	FC-CCR-SUMP13-0522	Water	05/26/22 09:28	05/27/22 14:05
550-184772-22	FC-CCR-SUMP14-0522	Water	05/26/22 09:38	05/27/22 14:05
550-184772-23	FC-CCR-SUMP15-0522	Water	05/26/22 09:45	05/27/22 14:05
550-184772-24	FC-CCR-SUMP16-0522	Water	05/26/22 09:50	05/27/22 14:05
550-184772-25	FC-CCR-SUMP17-0522	Water	05/26/22 10:00	05/27/22 14:05
550-184772-26	FC-CCR-SUMP18-0522	Water	05/26/22 10:10	05/27/22 14:05

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX03-0522 — Lab Sample ID: 550-184772-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2 M1	400		mg/L	200		300.0	Total/NA
Sulfate	28000	D2 M3	400		mg/L	200		300.0	Total/NA
Lithium	1.2		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.77		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.24		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2000	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA
Manganese	0.53		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	66		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3200	D2	5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.016	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00026	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0015	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0075	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00048	D1	0.00040		mg/L	4		200.8 LL	Total/NA
Alkalinity as CaCO3	860		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	860		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	21000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.53	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.8	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-DMX04-0522 — Lab Sample ID: 550-184772-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	860	D2	400		mg/L	200		300.0	Total/NA
Fluoride	0.88	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	16000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.67		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.4		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	450		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	780		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.25		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	37		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800	D2	2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.0087	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0061	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	340		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	340		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	10000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.76	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.4	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW05-0522 — Lab Sample ID: 550-184772-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	8700	D2	400		mg/L	200		300.0	Total/NA
Sulfate	34000	D2	400		mg/L	200		300.0	Total/NA
Lithium	2.2		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.1		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	530		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.24		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1300	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW05-0522 (Continued) — Lab Sample ID: 550-184772-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Manganese	1.6		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	94		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	6700	D2	5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Cobalt	0.0068	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0017	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	890		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	890		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	20000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.49	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	15.4	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW06-0522 — Lab Sample ID: 550-184772-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	5800	D2	400		mg/L	200		300.0	Total/NA
Sulfate	21000	D2	2000		mg/L	1000		300.0	Total/NA
Lithium	2.1		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	6.0		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	510	D1	20		mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	1800	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	65	D1	5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Sodium	8800	D2	10		mg/L	20		200.7 Rev 4.4	Total/NA
Barium	0.014	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0035	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.0024	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	660		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	660		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	25000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.59	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	14.9	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW11-0522 — Lab Sample ID: 550-184772-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	7900	D2	400		mg/L	200		300.0	Total/NA
Sulfate	62000	D2	10000		mg/L	5000		300.0	Total/NA
Calcium	560	D1	40		mg/L	20		200.7 Rev 4.4	Total/NA
Magnesium	11000	D2	40		mg/L	20		200.7 Rev 4.4	Total/NA
Potassium	170	D1	10		mg/L	20		200.7 Rev 4.4	Total/NA
Sodium	17000	D2	25		mg/L	50		200.7 Rev 4.4	Total/NA
Cobalt	0.022	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Alkalinity as CaCO3	870		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	870		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	85000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.12	H5	1.68		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5	0.100		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW16-0522 — Lab Sample ID: 550-184772-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400		mg/L	200		300.0	Total/NA
Sulfate	22000	D2	400		mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW16-0522 (Continued) — Lab Sample ID: 550-184772-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	1.2		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	8.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.15		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1500	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	60		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3500	D2	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.019	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0067	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.032	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Thallium	0.00041	D1	0.00040	mg/L	4		200.8 LL	Total/NA
Alkalinity as CaCO3	600		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	600		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.48	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW17R-0522 — Lab Sample ID: 550-184772-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	400	D2	4.0	mg/L	2		300.0	Total/NA
Sulfate	8500	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.42		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	34		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.84		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1200		1.0	mg/L	2		200.7 Rev 4.4	Total/NA
Barium	0.016	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cadmium	0.0014	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Cobalt	0.057	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Lead	0.0014	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0011	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6500	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.47	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW18-0522 — Lab Sample ID: 550-184772-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9200	D2	400	mg/L	200		300.0	Total/NA
Sulfate	37000	D2	400	mg/L	200		300.0	Total/NA
Lithium	2.3		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.35		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1100		20	mg/L	10		200.7 Rev 4.4	Total/NA
Manganese	2.7		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	96		0.50	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW18-0522 (Continued) — Lab Sample ID: 550-184772-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sodium	7600		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Cobalt	0.0098	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0017	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	950		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	950		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	25000	D2	1000	mg/L	1		SM 2540C	Total/NA
pH	7.38	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW23R-0522 — Lab Sample ID: 550-184772-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	770	D2	400	mg/L	200		300.0	Total/NA
Sulfate	9400	D2	400	mg/L	200		300.0	Total/NA
Lithium	1.0		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	13		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.14		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1300		10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	40		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Molybdenum	0.0036	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.44	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW24-0522 — Lab Sample ID: 550-184772-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5000	D2	400	mg/L	200		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Lithium	1.5		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.94		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	190		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	46		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	7300		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Cobalt	0.0023	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.028	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	290		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	290		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000	D2	1000	mg/L	1		SM 2540C	Total/NA
pH	7.68	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.8	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW36R-0522 — Lab Sample ID: 550-184772-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	460	D2	400	mg/L	200		300.0	Total/NA
Sulfate	3900	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.62		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	51		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	400		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.15		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	25		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		1.0	mg/L	2		200.7 Rev 4.4	Total/NA
Cobalt	0.21	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	220		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	220		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.50	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.1	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW38R-0522 — Lab Sample ID: 550-184772-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	310	D2	4.0	mg/L	2		300.0	Total/NA
Sulfate	4600	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.39		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	27		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.64		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	270		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.020		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1000		1.0	mg/L	2		200.7 Rev 4.4	Total/NA
Barium	0.016	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Cobalt	0.26	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.019	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.0027	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6200	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.45	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SUMP1-0522 — Lab Sample ID: 550-184772-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	560	D2	100	mg/L	50		300.0	Total/NA
Boron	68		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.14		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	550		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.011		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.059	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.11	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8400	D2	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP2-0522 — Lab Sample ID: 550-184772-14

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	920	D2 M1	100		mg/L	50		300.0	Total/NA
Boron	34		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	5.4		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	470		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.15		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0015	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0042	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7600	D2	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP3-0522 — Lab Sample ID: 550-184772-15

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	100		mg/L	50		300.0	Total/NA
Boron	36		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.20		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1200	D2	4.0		mg/L	2		200.7 Rev 4.4	Total/NA
Manganese	0.75		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0024	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.013	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Total Dissolved Solids	21000	D2	200		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP7-0522 — Lab Sample ID: 550-184772-16

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	100		mg/L	50		300.0	Total/NA
Boron	57	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.33		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	840		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.073		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.067	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0039	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	11000	D2	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP9-0522 — Lab Sample ID: 550-184772-17

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	890	D2	100		mg/L	50		300.0	Total/NA
Boron	30	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	3.2		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	780		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.021	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	10000	D2	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP10-0522 — Lab Sample ID: 550-184772-18

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	900	D2	100		mg/L	50		300.0	Total/NA
Boron	52	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.015		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.18	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7700	D2	100		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP11-0522 — Lab Sample ID: 550-184772-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	950	D2	100	mg/L	50		300.0	Total/NA
Boron	51	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.58		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.018		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.18	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7800	D2	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP12-0522 — Lab Sample ID: 550-184772-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	900	D2	100	mg/L	50		300.0	Total/NA
Boron	38	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.71		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	580		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.084	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8900	D2	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP13-0522 — Lab Sample ID: 550-184772-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	710	D2	100	mg/L	50		300.0	Total/NA
Boron	51	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.18	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7100	D2	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP14-0522 — Lab Sample ID: 550-184772-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	710	D2	100	mg/L	50		300.0	Total/NA
Boron	50	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.17	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0013	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7800	D2	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP15-0522 — Lab Sample ID: 550-184772-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	100	mg/L	50		300.0	Total/NA
Boron	15	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.27		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1500	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	0.031	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0019	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	19000	D2	200	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP16-0522 — Lab Sample ID: 550-184772-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4000	D2	200	mg/L	100		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-SUMP16-0522 (Continued) — Lab Sample ID: 550-184772-24

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	13	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.26		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2100	D2	10		mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	0.025	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0020	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Total Dissolved Solids	27000	D2	1000		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP17-0522 — Lab Sample ID: 550-184772-25

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	3100	D2	200		mg/L	100		300.0	Total/NA
Boron	5.8	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.37		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	3200	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA
Molybdenum	0.0030	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Total Dissolved Solids	30000	D2	1000		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP18-0522 — Lab Sample ID: 550-184772-26

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	200		mg/L	100		300.0	Total/NA
Boron	5.6	B7	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.35		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	3300	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA
Manganese	0.035		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Molybdenum	0.0032	D1	0.0020		mg/L	4		200.8 LL	Total/NA
Total Dissolved Solids	31000	D2	1000		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX03-0522

Lab Sample ID: 550-184772-1
Date Collected: 05/25/22 11:25
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2 M1	400	mg/L			05/28/22 12:13	200
Fluoride	<0.80	D1 M2	0.80	mg/L			05/28/22 10:50	2
Sulfate	28000	D2 M3	400	mg/L			05/28/22 12:13	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 19:52	06/01/22 19:59	1
Lithium	1.2		0.020	mg/L		06/12/22 12:41	06/14/22 21:36	1
Boron	0.77		0.050	mg/L		05/31/22 19:52	06/01/22 19:59	1
Calcium	490		2.0	mg/L		05/31/22 19:52	06/06/22 20:24	1
Iron	0.24		0.10	mg/L		05/31/22 19:52	06/06/22 20:24	1
Magnesium	2000	D2	20	mg/L		05/31/22 19:52	06/06/22 20:21	10
Manganese	0.53		0.010	mg/L		05/31/22 19:52	06/06/22 20:24	1
Potassium	66		0.50	mg/L		05/31/22 19:52	06/06/22 20:24	1
Sodium	3200	D2	5.0	mg/L		05/31/22 19:52	06/06/22 20:21	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:41	2
Arsenic	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:09	2
Barium	0.016	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:41	2
Cadmium	0.00026	D1	0.00020	mg/L		05/31/22 20:34	06/07/22 14:41	2
Chromium	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:41	2
Cobalt	0.0015	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:41	2
Lead	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:41	2
Molybdenum	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:41	2
Selenium	0.0075	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:09	2
Thallium	0.00048	D1	0.00040	mg/L		05/31/22 20:34	06/13/22 11:37	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	860		6.0	mg/L			06/02/22 17:42	1
Bicarbonate Alkalinity as CaCO3	860		6.0	mg/L			06/02/22 17:42	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:42	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 17:42	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:42	1
Total Dissolved Solids	21000	D2	200	mg/L			05/27/22 17:04	1
pH	7.53	H5	1.68	SU			06/07/22 11:19	1
Temperature	13.8	H5	0.100	Degrees C			06/07/22 11:19	1

Client Sample ID: FC-CCR-DMX04-0522

Lab Sample ID: 550-184772-2
Date Collected: 05/25/22 13:50
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	860	D2	400	mg/L			05/28/22 14:05	200
Fluoride	0.88	D1	0.80	mg/L			05/28/22 13:37	2
Sulfate	16000	D2	400	mg/L			05/28/22 14:05	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX04-0522

Lab Sample ID: 550-184772-2
Date Collected: 05/25/22 13:50
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 19:52	06/01/22 20:02	1
Lithium	**0.67**		0.020	mg/L		06/12/22 12:41	06/14/22 21:40	1
Boron	**1.4**		0.050	mg/L		05/31/22 19:52	06/01/22 20:02	1
Calcium	**450**		2.0	mg/L		05/31/22 19:52	06/06/22 20:29	1
Iron	<0.10		0.10	mg/L		05/31/22 19:52	06/06/22 20:29	1
Magnesium	**780**		2.0	mg/L		05/31/22 19:52	06/06/22 20:29	1
Manganese	**0.25**		0.010	mg/L		05/31/22 19:52	06/06/22 20:29	1
Potassium	**37**		0.50	mg/L		05/31/22 19:52	06/06/22 20:29	1
Sodium	**1800**	**D2**	2.5	mg/L		05/31/22 19:52	06/06/22 20:26	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:43	2
Arsenic	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:11	2
Barium	**0.0087**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:43	2
Cadmium	<0.00020	D1	0.00020	mg/L		05/31/22 20:34	06/07/22 14:43	2
Chromium	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:43	2
Cobalt	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:43	2
Lead	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:43	2
Molybdenum	**0.0061**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:43	2
Selenium	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:11	2
Thallium	<0.00040	D1	0.00040	mg/L		05/31/22 20:34	06/13/22 11:39	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**340**		6.0	mg/L			06/02/22 17:02	1
Bicarbonate Alkalinity as CaCO3	**340**		6.0	mg/L			06/02/22 17:02	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:02	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 17:02	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:02	1
Total Dissolved Solids	**10000**	**D2**	100	mg/L			05/27/22 17:04	1
pH	**7.76**	**H5**	1.68	SU			06/03/22 14:43	1
Temperature	**11.4**	**H5**	0.100	Degrees C			06/03/22 14:43	1

Client Sample ID: FC-CCR-MW05-0522

Lab Sample ID: 550-184772-3
Date Collected: 05/25/22 12:15
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8700**	**D2**	400	mg/L			05/28/22 15:01	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 14:33	2
Sulfate	**34000**	**D2**	400	mg/L			05/28/22 15:01	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 19:52	06/01/22 20:04	1
Lithium	**2.2**		0.020	mg/L		06/12/22 12:41	06/14/22 21:44	1
Boron	**1.1**		0.050	mg/L		05/31/22 19:52	06/01/22 20:04	1
Calcium	**530**		2.0	mg/L		05/31/22 19:52	06/06/22 20:34	1
Iron	**0.24**		0.10	mg/L		05/31/22 19:52	06/06/22 20:34	1

Client Sample ID: FC-CCR-MW05-0522

Lab Sample ID: 550-184772-3

Date Collected: 05/25/22 12:15
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	1300	D2	20	mg/L		05/31/22 19:52	06/06/22 20:31	10
Manganese	1.6		0.010	mg/L		05/31/22 19:52	06/06/22 20:34	1
Potassium	94		0.50	mg/L		05/31/22 19:52	06/06/22 20:34	1
Sodium	6700	D2	5.0	mg/L		05/31/22 19:52	06/06/22 20:31	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0068	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:45	2
Molybdenum	0.0017	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:45	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	890		6.0	mg/L			06/02/22 17:10	1
Bicarbonate Alkalinity as CaCO3	890		6.0	mg/L			06/02/22 17:10	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:10	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 17:10	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:10	1
Total Dissolved Solids	20000	D2	1000	mg/L			05/27/22 17:04	1
pH	7.49	H5	1.68	SU			06/03/22 14:49	1
Temperature	15.4	H5	0.100	Degrees C			06/03/22 14:49	1

Client Sample ID: FC-CCR-MW06-0522

Lab Sample ID: 550-184772-4

Date Collected: 05/25/22 15:30
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5800	D2	400	mg/L			05/28/22 16:53	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 16:25	2
Sulfate	21000	D2	2000	mg/L			05/31/22 13:38	1000

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 19:52	06/01/22 20:07	1
Lithium	2.1		0.020	mg/L		06/12/22 12:41	06/14/22 22:04	1
Boron	6.0		0.050	mg/L		05/31/22 19:52	06/01/22 20:07	1
Calcium	510	D1	20	mg/L		05/31/22 19:52	06/06/22 20:37	10
Iron	<1.0	D1	1.0	mg/L		05/31/22 19:52	06/06/22 20:37	10
Magnesium	1800	D2	20	mg/L		05/31/22 19:52	06/06/22 20:37	10
Manganese	<0.10	D1	0.10	mg/L		05/31/22 19:52	06/06/22 20:37	10
Potassium	65	D1	5.0	mg/L		05/31/22 19:52	06/06/22 20:37	10
Sodium	8800	D2	10	mg/L		05/31/22 19:52	06/07/22 17:39	20

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:47	2
Arsenic	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:13	2
Barium	0.014	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:47	2
Cadmium	<0.00020	D1	0.00020	mg/L		05/31/22 20:34	06/07/22 14:47	2
Chromium	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:47	2
Cobalt	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:47	2

Client Sample ID: FC-CCR-MW06-0522

Lab Sample ID: 550-184772-4

Date Collected: 05/25/22 15:30
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0010	D1	0.0010		mg/L		05/31/22 20:34	06/07/22 14:47	2
Molybdenum	**0.0035**	**D1**	0.0010		mg/L		05/31/22 20:34	06/07/22 14:47	2
Selenium	**0.0024**	**D1**	0.0010		mg/L		05/31/22 20:34	06/09/22 18:13	2
Thallium	<0.00020	D1	0.00020		mg/L		05/31/22 20:34	06/13/22 10:10	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**660**		6.0		mg/L			06/02/22 17:24	1
Bicarbonate Alkalinity as CaCO3	**660**		6.0		mg/L			06/02/22 17:24	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 17:24	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			06/02/22 17:24	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 17:24	1
Total Dissolved Solids	**25000**	**D2**	1000		mg/L			05/27/22 17:04	1
pH	**7.59**	**H5**	1.68		SU			06/03/22 14:52	1
Temperature	**14.9**	**H5**	0.100		Degrees C			06/03/22 14:52	1

Client Sample ID: FC-CCR-MW11-0522

Lab Sample ID: 550-184772-5

Date Collected: 05/26/22 12:28
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7900**	**D2**	400		mg/L			05/28/22 17:49	200
Fluoride	<0.80	D1	0.80		mg/L			05/28/22 17:21	2
Sulfate	**62000**	**D2**	10000		mg/L			05/31/22 13:19	5000

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	<1.0	D1	1.0		mg/L		05/31/22 19:52	06/06/22 20:42	20
Calcium	**560**	**D1**	40		mg/L		05/31/22 19:52	06/06/22 20:42	20
Magnesium	**11000**	**D2**	40		mg/L		05/31/22 19:52	06/06/22 20:42	20
Potassium	**170**	**D1**	10		mg/L		05/31/22 19:52	06/06/22 20:42	20
Sodium	**17000**	**D2**	25		mg/L		05/31/22 19:52	06/07/22 17:42	50

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.022**	**D1**	0.0020		mg/L		06/01/22 08:40	06/15/22 09:25	4
Molybdenum	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/15/22 09:25	4

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**870**		6.0		mg/L			06/02/22 19:03	1
Bicarbonate Alkalinity as CaCO3	**870**		6.0		mg/L			06/02/22 19:03	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:03	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			06/02/22 19:03	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:03	1
Total Dissolved Solids	**85000**	**D2**	1000		mg/L			06/01/22 16:31	1
pH	**7.12**	**H5**	1.68		SU			06/03/22 14:54	1
Temperature	**13.3**	**H5**	0.100		Degrees C			06/03/22 14:54	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW16-0522

Lab Sample ID: 550-184772-6
Matrix: Water

Date Collected: 05/26/22 14:15
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1200**	**D2**	400		mg/L			05/28/22 18:44	200
Fluoride	<0.80	D1	0.80		mg/L			05/28/22 18:16	2
Sulfate	**22000**	**D2**	400		mg/L			05/28/22 18:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010		mg/L		05/31/22 19:52	06/01/22 20:12	1
Lithium	**1.2**		0.020		mg/L		06/12/22 12:41	06/14/22 22:08	1
Boron	**8.5**		0.050		mg/L		05/31/22 19:52	06/01/22 20:12	1
Calcium	**480**		2.0		mg/L		05/31/22 19:52	06/06/22 20:55	1
Iron	**0.15**		0.10		mg/L		05/31/22 19:52	06/06/22 20:55	1
Magnesium	**1500**	**D2**	20		mg/L		05/31/22 19:52	06/06/22 20:52	10
Potassium	**60**		0.50		mg/L		05/31/22 19:52	06/06/22 20:55	1
Sodium	**3500**	**D2**	5.0		mg/L		05/31/22 19:52	06/06/22 20:52	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/14/22 12:45	2
Arsenic	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:45	2
Barium	**0.019**	**D1**	0.0010		mg/L		06/01/22 08:40	06/14/22 12:45	2
Cadmium	<0.00020	D1	0.00020		mg/L		06/01/22 08:40	06/14/22 12:45	2
Chromium	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/14/22 12:45	2
Cobalt	**0.0067**	**D1**	0.0010		mg/L		06/01/22 08:40	06/14/22 12:45	2
Lead	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/14/22 12:49	4
Molybdenum	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:45	2
Selenium	**0.032**	**D1**	0.0010		mg/L		06/01/22 08:40	06/14/22 12:45	2
Thallium	**0.00041**	**D1**	0.00040		mg/L		06/01/22 08:40	06/14/22 12:49	4

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**600**		6.0		mg/L			06/02/22 19:22	1
Bicarbonate Alkalinity as CaCO3	**600**		6.0		mg/L			06/02/22 19:22	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:22	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			06/02/22 19:22	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:22	1
Total Dissolved Solids	**19000**	**D2**	200		mg/L			05/31/22 15:30	1
pH	**7.48**	**H5**	1.68		SU			06/03/22 14:56	1
Temperature	**12.3**	**H5**	0.100		Degrees C			06/03/22 14:56	1

Client Sample ID: FC-CCR-MW17R-0522

Lab Sample ID: 550-184772-7
Matrix: Water

Date Collected: 05/25/22 16:25
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**400**	**D2**	4.0		mg/L			05/28/22 19:12	2
Fluoride	<0.80	D1	0.80		mg/L			05/28/22 19:12	2
Sulfate	**8500**	**D2**	400		mg/L			05/28/22 19:40	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW17R-0522

Lab Sample ID: 550-184772-7
Date Collected: 05/25/22 16:25
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:07	1
Lithium	**0.42**		0.020	mg/L		06/12/22 12:41	06/14/22 22:12	1
Boron	**34**		0.050	mg/L		05/31/22 16:29	06/01/22 18:07	1
Calcium	**440**		2.0	mg/L		05/31/22 16:29	06/01/22 18:07	1
Iron	<0.10		0.10	mg/L		05/31/22 16:29	06/03/22 08:48	1
Magnesium	**280**		2.0	mg/L		05/31/22 16:29	06/01/22 18:07	1
Manganese	**0.84**		0.010	mg/L		05/31/22 16:29	06/03/22 08:48	1
Potassium	**20**		0.50	mg/L		05/31/22 16:29	06/03/22 08:48	1
Sodium	**1200**		1.0	mg/L		05/31/22 16:29	06/03/22 08:45	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:49	2
Arsenic	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:16	2
Barium	**0.016**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:49	2
Cadmium	**0.0014**	**D1**	0.00020	mg/L		05/31/22 20:34	06/07/22 14:49	2
Chromium	<0.0020	D1	0.0020	mg/L		05/31/22 20:34	06/07/22 14:49	2
Cobalt	**0.057**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:49	2
Lead	**0.0014**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:49	2
Molybdenum	**0.0011**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:49	2
Selenium	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:16	2
Thallium	<0.00020	D1	0.00020	mg/L		05/31/22 20:34	06/13/22 10:12	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**130**		6.0	mg/L			06/02/22 17:55	1
Bicarbonate Alkalinity as CaCO3	**130**		6.0	mg/L			06/02/22 17:55	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:55	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 17:55	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 17:55	1
Total Dissolved Solids	**6500**	**D2**	100	mg/L			05/27/22 17:04	1
pH	**7.47**	**H5**	1.68	SU			06/03/22 14:59	1
Temperature	**11.9**	**H5**	0.100	Degrees C			06/03/22 14:59	1

Client Sample ID: FC-CCR-MW18-0522

Lab Sample ID: 550-184772-8
Date Collected: 05/25/22 13:05
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9200**	**D2**	400	mg/L			05/28/22 20:36	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 20:08	2
Sulfate	**37000**	**D2**	400	mg/L			05/28/22 20:36	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:10	1
Lithium	**2.3**		0.020	mg/L		06/12/22 12:41	06/14/22 22:16	1
Boron	**1.2**		0.050	mg/L		05/31/22 16:29	06/01/22 18:10	1
Calcium	**470**		2.0	mg/L		05/31/22 16:29	06/01/22 18:10	1
Iron	**0.35**		0.10	mg/L		05/31/22 16:29	06/03/22 08:58	1

Client Sample ID: FC-CCR-MW18-0522

Lab Sample ID: 550-184772-8
Date Collected: 05/25/22 13:05
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	1100		20	mg/L		05/31/22 16:29	06/03/22 08:55	10
Manganese	2.7		0.010	mg/L		05/31/22 16:29	06/03/22 08:58	1
Potassium	96		0.50	mg/L		05/31/22 16:29	06/03/22 08:58	1
Sodium	7600		5.0	mg/L		05/31/22 16:29	06/03/22 08:55	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0098	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:58	2
Molybdenum	0.0017	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:58	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	950		6.0	mg/L			06/02/22 18:02	1
Bicarbonate Alkalinity as CaCO3	950		6.0	mg/L			06/02/22 18:02	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:02	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 18:02	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:02	1
Total Dissolved Solids	25000	D2	1000	mg/L			05/27/22 17:04	1
pH	7.38	H5	1.68	SU			06/03/22 15:01	1
Temperature	12.1	H5	0.100	Degrees C			06/03/22 15:01	1

Client Sample ID: FC-CCR-MW23R-0522

Lab Sample ID: 550-184772-9
Date Collected: 05/25/22 09:58
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	770	D2	400	mg/L			05/28/22 22:28	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 22:00	2
Sulfate	9400	D2	400	mg/L			05/28/22 22:28	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:12	1
Lithium	1.0		0.020	mg/L		06/12/22 12:41	06/14/22 22:20	1
Boron	13		0.050	mg/L		05/31/22 16:29	06/01/22 18:12	1
Calcium	470		2.0	mg/L		05/31/22 16:29	06/01/22 18:12	1
Iron	0.14		0.10	mg/L		05/31/22 16:29	06/03/22 09:03	1
Magnesium	1300		10	mg/L		05/31/22 16:29	06/03/22 09:01	5
Manganese	<0.010		0.010	mg/L		05/31/22 16:29	06/03/22 09:03	1
Potassium	40		0.50	mg/L		05/31/22 16:29	06/03/22 09:03	1
Sodium	2100		2.5	mg/L		05/31/22 16:29	06/03/22 09:01	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:52	2
Molybdenum	0.0036	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:52	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	500		6.0	mg/L			06/02/22 18:17	1

Client Sample ID: FC-CCR-MW23R-0522

Lab Sample ID: 550-184772-9

Date Collected: 05/25/22 09:58
Matrix: Water
Date Received: 05/27/22 14:05

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L			06/02/22 18:17	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:17	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 18:17	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:17	1
Total Dissolved Solids	15000	D2	100	mg/L			05/27/22 17:04	1
pH	7.44	H5	1.68	SU			06/03/22 15:04	1
Temperature	12.6	H5	0.100	Degrees C			06/03/22 15:04	1

Client Sample ID: FC-CCR-MW24-0522

Lab Sample ID: 550-184772-10

Date Collected: 05/25/22 14:50
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5000	D2	400	mg/L			05/28/22 23:24	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 22:56	2
Sulfate	12000	D2	400	mg/L			05/28/22 23:24	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:15	1
Lithium	1.5		0.020	mg/L		06/12/22 12:41	06/14/22 22:24	1
Boron	0.94		0.050	mg/L		05/31/22 16:29	06/01/22 18:15	1
Calcium	460		2.0	mg/L		05/31/22 16:29	06/01/22 18:15	1
Iron	0.11		0.10	mg/L		05/31/22 16:29	06/03/22 09:08	1
Magnesium	190		2.0	mg/L		05/31/22 16:29	06/01/22 18:15	1
Manganese	1.8		0.010	mg/L		05/31/22 16:29	06/03/22 09:08	1
Potassium	46		0.50	mg/L		05/31/22 16:29	06/03/22 09:08	1
Sodium	7300		5.0	mg/L		05/31/22 16:29	06/03/22 09:06	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0023	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:54	2
Molybdenum	0.028	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:54	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	290		6.0	mg/L			06/02/22 18:27	1
Bicarbonate Alkalinity as CaCO3	290		6.0	mg/L			06/02/22 18:27	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:27	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 18:27	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:27	1
Total Dissolved Solids	19000	D2	1000	mg/L			05/27/22 17:04	1
pH	7.68	H5	1.68	SU			06/03/22 15:07	1
Temperature	14.8	H5	0.100	Degrees C			06/03/22 15:07	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW36R-0522

Lab Sample ID: 550-184772-11
Date Collected: 05/25/22 10:40
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**460**	**D2**	400	mg/L			05/29/22 00:20	200
Fluoride	<0.80	D1	0.80	mg/L			05/28/22 23:52	2
Sulfate	**3900**	**D2**	400	mg/L			05/29/22 00:20	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:18	1
Lithium	**0.62**		0.020	mg/L		06/12/22 12:41	06/14/22 22:28	1
Boron	**51**		0.050	mg/L		05/31/22 16:29	06/01/22 18:18	1
Calcium	**460**		2.0	mg/L		05/31/22 16:29	06/01/22 18:18	1
Iron	<0.10		0.10	mg/L		05/31/22 16:29	06/03/22 09:14	1
Magnesium	**400**		2.0	mg/L		05/31/22 16:29	06/01/22 18:18	1
Manganese	**0.15**		0.010	mg/L		05/31/22 16:29	06/03/22 09:14	1
Potassium	**25**		0.50	mg/L		05/31/22 16:29	06/03/22 09:14	1
Sodium	**1100**		1.0	mg/L		05/31/22 16:29	06/03/22 09:11	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.21**	**D1**	0.0010	mg/L		05/31/22 20:34	06/07/22 14:56	2
Molybdenum	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/07/22 14:56	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**220**		6.0	mg/L			06/02/22 20:46	1
Bicarbonate Alkalinity as CaCO3	**220**		6.0	mg/L			06/02/22 20:46	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 20:46	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 20:46	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 20:46	1
Total Dissolved Solids	**7200**	**D2**	100	mg/L			05/27/22 17:04	1
pH	**7.50**	**H5**	1.68	SU			06/03/22 15:11	1
Temperature	**15.1**	**H5**	0.100	Degrees C			06/03/22 15:11	1

Client Sample ID: FC-CCR-MW38R-0522

Lab Sample ID: 550-184772-12
Date Collected: 05/25/22 17:25
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**310**	**D2**	4.0	mg/L			05/29/22 00:48	2
Fluoride	<0.80	D1	0.80	mg/L			05/29/22 00:48	2
Sulfate	**4600**	**D2**	400	mg/L			05/29/22 01:16	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:20	1
Lithium	**0.39**		0.020	mg/L		06/12/22 12:41	06/14/22 22:32	1
Boron	**27**		0.050	mg/L		05/31/22 16:29	06/01/22 18:20	1
Calcium	**440**		2.0	mg/L		05/31/22 16:29	06/01/22 18:20	1
Iron	**0.64**		0.10	mg/L		05/31/22 16:29	06/03/22 09:19	1
Magnesium	**270**		2.0	mg/L		05/31/22 16:29	06/01/22 18:20	1
Manganese	**0.020**		0.010	mg/L		05/31/22 16:29	06/03/22 09:19	1

Client Sample ID: FC-CCR-MW38R-0522

Lab Sample ID: 550-184772-12

Date Collected: 05/25/22 17:25
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Potassium	18		0.50		mg/L		05/31/22 16:29	06/03/22 09:19	1
Sodium	1000		1.0		mg/L		05/31/22 16:29	06/03/22 09:16	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/14/22 12:47	2
Arsenic	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Barium	0.016	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Cadmium	<0.00020	D1	0.00020		mg/L		06/01/22 08:40	06/14/22 12:47	2
Chromium	<0.0020	D1	0.0020		mg/L		06/01/22 08:40	06/14/22 12:47	2
Cobalt	0.26	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Lead	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Molybdenum	0.019	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Selenium	0.0027	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:47	2
Thallium	<0.00020	D1	0.00020		mg/L		06/01/22 08:40	06/14/22 12:47	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	130		6.0		mg/L			06/02/22 19:33	1
Bicarbonate Alkalinity as CaCO3	130		6.0		mg/L			06/02/22 19:33	1
Carbonate Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:33	1
Alkalinity, Phenolphthalein	<6.0		6.0		mg/L			06/02/22 19:33	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0		mg/L			06/02/22 19:33	1
Total Dissolved Solids	6200	D2	100		mg/L			05/27/22 17:04	1
pH	7.45	H5	1.68		SU			06/03/22 15:15	1
Temperature	13.3	H5	0.100		Degrees C			06/03/22 15:15	1

Client Sample ID: FC-CCR-SUMP1-0522

Lab Sample ID: 550-184772-13

Date Collected: 05/26/22 08:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	560	D2	100		mg/L			05/29/22 01:43	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	68		0.050		mg/L		05/31/22 19:52	06/01/22 20:20	1
Iron	0.14		0.10		mg/L		05/31/22 19:52	06/06/22 21:05	1
Magnesium	550		2.0		mg/L		05/31/22 19:52	06/06/22 21:05	1
Manganese	0.011		0.010		mg/L		05/31/22 19:52	06/06/22 21:05	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.059	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:57	2
Molybdenum	0.11	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:57	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8400	D2	100		mg/L			05/31/22 15:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP2-0522

Lab Sample ID: 550-184772-14

Date Collected: 05/26/22 08:11
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	920	D2 M1	100	mg/L			05/28/22 11:17	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	34		0.050	mg/L		05/31/22 19:52	06/01/22 20:15	1
Iron	5.4		0.10	mg/L		05/31/22 19:52	06/06/22 20:57	1
Magnesium	470		2.0	mg/L		05/31/22 19:52	06/06/22 20:57	1
Manganese	0.15		0.010	mg/L		05/31/22 19:52	06/06/22 20:57	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0015	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 12:59	2
Molybdenum	0.0042	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 12:59	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7600	D2	100	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP3-0522

Lab Sample ID: 550-184772-15

Date Collected: 05/26/22 08:30
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	100	mg/L			05/28/22 12:41	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	36		0.050	mg/L		05/31/22 19:52	06/01/22 20:17	1
Iron	0.20		0.10	mg/L		05/31/22 19:52	06/06/22 21:03	1
Magnesium	1200	D2	4.0	mg/L		05/31/22 19:52	06/06/22 21:00	2
Manganese	0.75		0.010	mg/L		05/31/22 19:52	06/06/22 21:03	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0024	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:01	2
Molybdenum	0.013	D1	0.0020	mg/L		06/01/22 08:40	06/14/22 15:24	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	21000	D2	200	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP7-0522

Lab Sample ID: 550-184772-16

Date Collected: 05/26/22 08:38
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	100	mg/L			05/28/22 13:09	50

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP7-0522

Lab Sample ID: 550-184772-16
Date Collected: 05/26/22 08:38
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	57	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:34	1
Iron	0.33		0.10	mg/L		06/01/22 09:59	06/06/22 21:34	1
Magnesium	840		2.0	mg/L		06/01/22 09:59	06/06/22 21:34	1
Manganese	0.073		0.010	mg/L		06/01/22 09:59	06/06/22 21:34	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.067	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:04	2
Molybdenum	0.0039	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:04	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000	D2	100	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP9-0522

Lab Sample ID: 550-184772-17
Date Collected: 05/26/22 08:48
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	890	D2	100	mg/L			05/28/22 13:37	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	30	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:36	1
Iron	3.2		0.10	mg/L		06/01/22 09:59	06/06/22 21:36	1
Magnesium	780		2.0	mg/L		06/01/22 09:59	06/06/22 21:36	1
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:36	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.021	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:08	2
Molybdenum	<0.0020	D1	0.0020	mg/L		06/01/22 08:40	06/14/22 15:26	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10000	D2	100	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP10-0522

Lab Sample ID: 550-184772-18
Date Collected: 05/26/22 09:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	900	D2	100	mg/L			05/28/22 14:05	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	52	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:39	1
Iron	0.17		0.10	mg/L		06/01/22 09:59	06/06/22 21:39	1
Magnesium	490		2.0	mg/L		06/01/22 09:59	06/06/22 21:39	1
Manganese	0.015		0.010	mg/L		06/01/22 09:59	06/06/22 21:39	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP10-0522

Lab Sample ID: 550-184772-18
Date Collected: 05/26/22 09:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.18	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:32	2
Molybdenum	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 12:32	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7700	D2	100		mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP11-0522

Lab Sample ID: 550-184772-19
Date Collected: 05/26/22 09:08
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	950	D2	100		mg/L			05/28/22 14:33	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	51	B7	0.050		mg/L		06/01/22 09:59	06/06/22 21:42	1
Iron	0.58		0.10		mg/L		06/01/22 09:59	06/06/22 21:42	1
Magnesium	460		2.0		mg/L		06/01/22 09:59	06/06/22 21:42	1
Manganese	0.018		0.010		mg/L		06/01/22 09:59	06/06/22 21:42	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.18	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 13:10	2
Molybdenum	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 13:10	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7800	D2	100		mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP12-0522

Lab Sample ID: 550-184772-20
Date Collected: 05/26/22 09:18
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	900	D2	100		mg/L			05/28/22 15:01	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	38	B7	0.050		mg/L		06/01/22 10:10	06/06/22 22:13	1
Iron	0.71		0.10		mg/L		06/01/22 10:10	06/06/22 22:13	1
Magnesium	580		2.0		mg/L		06/01/22 10:10	06/06/22 22:13	1
Manganese	<0.010		0.010		mg/L		06/01/22 10:10	06/06/22 22:13	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.084	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 13:16	2
Molybdenum	<0.0010	D1	0.0010		mg/L		06/01/22 08:40	06/14/22 13:16	2

Client Sample ID: FC-CCR-SUMP12-0522 — Lab Sample ID: 550-184772-20

Date Collected: 05/26/22 09:18 — **Matrix: Water**
Date Received: 05/27/22 14:05

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8900	D2	100	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP13-0522 — Lab Sample ID: 550-184772-21

Date Collected: 05/26/22 09:28 — **Matrix: Water**
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	710	D2	100	mg/L			05/28/22 16:52	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	51	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:44	1
Iron	<0.10		0.10	mg/L		06/01/22 09:59	06/06/22 21:44	1
Magnesium	470		2.0	mg/L		06/01/22 09:59	06/06/22 21:44	1
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:44	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.18	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:18	2
Molybdenum	<0.0010	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:18	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7100	D2	100	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP14-0522 — Lab Sample ID: 550-184772-22

Date Collected: 05/26/22 09:38 — **Matrix: Water**
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	710	D2	100	mg/L			05/28/22 17:20	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	50	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:47	1
Iron	0.11		0.10	mg/L		06/01/22 09:59	06/06/22 21:47	1
Magnesium	480		2.0	mg/L		06/01/22 09:59	06/06/22 21:47	1
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:47	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.17	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:20	2
Molybdenum	0.0013	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:20	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7800	D2	100	mg/L			05/31/22 15:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP15-0522

Lab Sample ID: 550-184772-23
Date Collected: 05/26/22 09:45
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	100	mg/L			05/28/22 17:48	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:49	1
Iron	0.27		0.10	mg/L		06/01/22 09:59	06/06/22 21:49	1
Magnesium	1500	D2	10	mg/L		06/01/22 09:59	06/07/22 18:34	5
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:49	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.031	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:22	2
Molybdenum	0.0019	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:22	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	19000	D2	200	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP16-0522

Lab Sample ID: 550-184772-24
Date Collected: 05/26/22 09:50
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4000	D2	200	mg/L			05/28/22 18:16	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	13	B7	0.050	mg/L		06/01/22 09:59	06/06/22 21:52	1
Iron	0.26		0.10	mg/L		06/01/22 09:59	06/06/22 21:52	1
Magnesium	2100	D2	10	mg/L		06/01/22 09:59	06/07/22 18:36	5
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:52	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.025	D1	0.0010	mg/L		06/01/22 08:40	06/14/22 13:25	2
Molybdenum	0.0020	D1	0.0020	mg/L		06/01/22 08:40	06/14/22 15:29	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	27000	D2	1000	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP17-0522

Lab Sample ID: 550-184772-25
Date Collected: 05/26/22 10:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3100	D2	200	mg/L			05/28/22 18:44	100

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP17-0522

Lab Sample ID: 550-184772-25

Date Collected: 05/26/22 10:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.8**	**B7**	0.050	mg/L		06/01/22 09:59	06/06/22 21:55	1
Iron	**0.37**		0.10	mg/L		06/01/22 09:59	06/06/22 21:55	1
Magnesium	**3200**	**D2**	20	mg/L		06/01/22 09:59	06/07/22 18:39	10
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:55	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0020	D1	0.0020	mg/L		06/01/22 08:40	06/15/22 09:32	4
Molybdenum	**0.0030**	**D1**	0.0020	mg/L		06/01/22 08:40	06/14/22 15:31	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**30000**	**D2**	1000	mg/L			05/31/22 15:30	1

Client Sample ID: FC-CCR-SUMP18-0522

Lab Sample ID: 550-184772-26

Date Collected: 05/26/22 10:10
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2600**	**D2**	200	mg/L			05/28/22 19:12	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.6**	**B7**	0.050	mg/L		06/01/22 09:59	06/06/22 21:57	1
Iron	**0.35**		0.10	mg/L		06/01/22 09:59	06/06/22 21:57	1
Magnesium	**3300**	**D2**	20	mg/L		06/01/22 09:59	06/07/22 18:42	10
Manganese	**0.035**		0.010	mg/L		06/01/22 09:59	06/06/22 21:57	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0020	D1	0.0020	mg/L		06/01/22 08:40	06/15/22 09:34	4
Molybdenum	**0.0032**	**D1**	0.0020	mg/L		06/01/22 08:40	06/14/22 15:33	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**31000**	**D2**	1000	mg/L			05/31/22 15:30	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275566/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275566

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/28/22 08:58	1

Lab Sample ID: LCS 550-275566/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275566

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		

Lab Sample ID: LCSD 550-275566/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275566

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-184772-14 MS — **Client Sample ID: FC-CCR-SUMP2-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275566

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	920	D2 M1	1000	2540	D2 M1	mg/L		163	80 - 120		

Lab Sample ID: 550-184772-14 MSD — **Client Sample ID: FC-CCR-SUMP2-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275566

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	920	D2 M1	1000	2530	D2 M1	mg/L		162	80 - 120	0	20

Lab Sample ID: MB 550-275567/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/28/22 08:30	1
Fluoride	<0.40		0.40		mg/L			05/28/22 08:30	1
Sulfate	<2.0		2.0		mg/L			05/28/22 08:30	1

Lab Sample ID: LCS 550-275567/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		105	90 - 110		
Fluoride			4.00	4.03		mg/L		101	90 - 110		
Sulfate			20.0	20.3		mg/L		101	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-275567/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.03		mg/L		101	90 - 110	0	20
Sulfate			20.0	20.3		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-184772-1 MS — **Client Sample ID: FC-CCR-DMX03-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride	<0.80	D1 M2	8.00	1.14	D1 M2	mg/L		11	80 - 120		

Lab Sample ID: 550-184772-1 MS — **Client Sample ID: FC-CCR-DMX03-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	2200	D2 M1	4000	8280	D2 M1	mg/L		153	80 - 120		
Sulfate	28000	D2 M3	4000	31500	D2 M3	mg/L		77	80 - 120		

Lab Sample ID: 550-184772-1 MSD — **Client Sample ID: FC-CCR-DMX03-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	<0.80	D1 M2	8.00	1.15	D1 M2	mg/L		11	80 - 120	1	20

Lab Sample ID: 550-184772-1 MSD — **Client Sample ID: FC-CCR-DMX03-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275567

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2200	D2 M1	4000	7390	D2 M1	mg/L		130	80 - 120	11	20
Sulfate	28000	D2 M3	4000	28800	D2 M3	mg/L		11	80 - 120	9	20

Lab Sample ID: MB 550-275595/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/31/22 10:52	1
Fluoride	<0.40		0.40		mg/L			05/31/22 10:52	1
Sulfate	<2.0		2.0		mg/L			05/31/22 10:52	1

Lab Sample ID: LCS 550-275595/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	21.2		mg/L		106	90 - 110		
Fluoride			4.00	3.97		mg/L		99	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-275595/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	20.0	20.7		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-275595/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride	4.00	3.99		mg/L		100	90 - 110	0	20
Sulfate	20.0	20.7		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-184768-E-3 MS ^200 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	<400	D1	4000	4440	D1	mg/L		107	80 - 120
Sulfate	12000	D2	4000	16000	D2	mg/L		103	80 - 120

Lab Sample ID: 550-184768-E-3 MSD ^200 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<400	D1	4000	4420	D1	mg/L		106	80 - 120	0	20
Sulfate	12000	D2	4000	16000	D2	mg/L		103	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275622/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 17:26	1
Boron	<0.050		0.050	mg/L		05/31/22 16:29	06/01/22 17:26	1
Calcium	<2.0		2.0	mg/L		05/31/22 16:29	06/01/22 17:26	1
Magnesium	<2.0		2.0	mg/L		05/31/22 16:29	06/01/22 17:26	1

Lab Sample ID: MB 550-275622/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275999 — **Prep Batch: 275622**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.10		0.10	mg/L		05/31/22 16:29	06/02/22 23:07	1
Magnesium	<2.0		2.0	mg/L		05/31/22 16:29	06/02/22 23:07	1
Manganese	<0.010		0.010	mg/L		05/31/22 16:29	06/02/22 23:07	1
Potassium	<0.50		0.50	mg/L		05/31/22 16:29	06/02/22 23:07	1
Sodium	<0.50		0.50	mg/L		05/31/22 16:29	06/02/22 23:07	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-275622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.958	V1	mg/L		96	85 - 115
Boron	1.00	0.959		mg/L		96	85 - 115
Calcium	21.0	19.7		mg/L		94	85 - 115
Magnesium	21.0	19.9		mg/L		95	85 - 115

Lab Sample ID: LCS 550-275622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275999 — **Prep Batch: 275622**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	0.962		mg/L		96	85 - 115
Magnesium	21.0	20.8		mg/L		99	85 - 115
Manganese	1.00	0.950		mg/L		95	85 - 115
Potassium	20.0	19.7		mg/L		98	85 - 115
Sodium	20.0	20.1		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-275622/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.972	V1	mg/L		97	85 - 115	1	20
Boron	1.00	0.959		mg/L		96	85 - 115	0	20
Calcium	21.0	19.8		mg/L		94	85 - 115	1	20
Magnesium	21.0	20.1		mg/L		96	85 - 115	1	20

Lab Sample ID: LCSD 550-275622/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275999 — **Prep Batch: 275622**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	1.00	0.976		mg/L		98	85 - 115	1	20
Magnesium	21.0	20.9		mg/L		99	85 - 115	1	20
Manganese	1.00	0.983		mg/L		98	85 - 115	3	20
Potassium	20.0	19.7		mg/L		98	85 - 115	0	20
Sodium	20.0	20.0		mg/L		100	85 - 115	1	20

Lab Sample ID: 550-184324-C-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	<0.0010		1.00	0.996	V1	mg/L		100	70 - 130
Boron	<0.050		1.00	0.994		mg/L		98	70 - 130
Calcium	82	M2	21.0	89.6	M2	mg/L		36	70 - 130
Magnesium	18		21.0	35.3		mg/L		84	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184324-C-1-C MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275999 — **Prep Batch: 275622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	0.11		1.00	1.07		mg/L		96	70 - 130
Magnesium	18		21.0	36.7		mg/L		91	70 - 130
Manganese	<0.010		1.00	0.962		mg/L		96	70 - 130
Potassium	100	M3	20.0	111	M3	mg/L		47	70 - 130
Sodium	460	M3	20.0	433	M3	mg/L		-145	70 - 130

Lab Sample ID: 550-184324-C-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010		1.00	1.04	V1	mg/L		104	70 - 130	1	20
Boron	<0.050		1.00	1.01		mg/L		99	70 - 130	3	20
Calcium	82	M2	21.0	95.8	M2	mg/L		65	70 - 130	2	20
Magnesium	18		21.0	37.3		mg/L		94	70 - 130	2	20

Lab Sample ID: 550-184324-C-1-D MSD T — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275999 — **Prep Batch: 275622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	0.11		1.00	1.15		mg/L		104	70 - 130	7	20
Magnesium	18		21.0	39.5		mg/L		104	70 - 130	7	20
Manganese	<0.010		1.00	0.977		mg/L		98	70 - 130	1	20
Potassium	100	M3	20.0	122	M3	mg/L		103	70 - 130	10	20
Sodium	460	M3	20.0	479	M3	mg/L		83	70 - 130	10	20

Lab Sample ID: MB 550-275638/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275782 — **Prep Batch: 275638**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010		mg/L		05/31/22 19:52	06/01/22 19:44	1
Boron	<0.050		0.050		mg/L		05/31/22 19:52	06/01/22 19:44	1

Lab Sample ID: MB 550-275638/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<2.0		2.0		mg/L		05/31/22 19:52	06/06/22 20:05	1
Iron	<0.10		0.10		mg/L		05/31/22 19:52	06/06/22 20:05	1
Magnesium	<2.0		2.0		mg/L		05/31/22 19:52	06/06/22 20:05	1
Manganese	<0.010		0.010		mg/L		05/31/22 19:52	06/06/22 20:05	1
Potassium	<0.50		0.50		mg/L		05/31/22 19:52	06/06/22 20:05	1
Sodium	<0.50		0.50		mg/L		05/31/22 19:52	06/06/22 20:05	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-275638/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275782 — **Prep Batch: 275638**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.971	V1	mg/L		97	85 - 115
Boron	1.00	0.938		mg/L		94	85 - 115

Lab Sample ID: LCS 550-275638/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	21.0	22.1		mg/L		105	85 - 115
Iron	1.00	1.02		mg/L		102	85 - 115
Magnesium	21.0	21.3		mg/L		101	85 - 115
Manganese	1.00	1.06		mg/L		106	85 - 115
Potassium	20.0	20.3		mg/L		101	85 - 115
Sodium	20.0	20.4		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-275638/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275782 — **Prep Batch: 275638**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.979	V1	mg/L		98	85 - 115	1	20
Boron	1.00	0.933		mg/L		93	85 - 115	1	20

Lab Sample ID: LCSD 550-275638/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	21.0	21.5		mg/L		102	85 - 115	3	20
Iron	1.00	0.989		mg/L		99	85 - 115	3	20
Magnesium	21.0	20.7		mg/L		98	85 - 115	3	20
Manganese	1.00	1.04		mg/L		104	85 - 115	1	20
Potassium	20.0	19.7		mg/L		99	85 - 115	3	20
Sodium	20.0	19.9		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-184766-H-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275782 — **Prep Batch: 275638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	<0.0010	V1	1.00	0.953	V1	mg/L		95	70 - 130
Boron	0.31		1.00	1.23		mg/L		92	70 - 130

Lab Sample ID: 550-184766-H-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	35		21.0	56.2		mg/L		99	70 - 130
Iron	<0.10		1.00	1.05		mg/L		105	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184766-H-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	5.1		21.0	26.0		mg/L		100	70 - 130
Manganese	<0.010		1.00	1.04		mg/L		104	70 - 130
Potassium	12		20.0	32.4		mg/L		100	70 - 130
Sodium	100		20.0	117	M3	mg/L		78	70 - 130

Lab Sample ID: 550-184766-H-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275782 — **Prep Batch: 275638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010	V1	1.00	0.989	V1	mg/L		99	70 - 130	4	20
Boron	0.31		1.00	1.27		mg/L		96	70 - 130	3	20

Lab Sample ID: 550-184766-H-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276167 — **Prep Batch: 275638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	35		21.0	57.0		mg/L		103	70 - 130	1	20
Iron	<0.10		1.00	1.04		mg/L		104	70 - 130	0	20
Magnesium	5.1		21.0	26.2		mg/L		101	70 - 130	1	20
Manganese	<0.010		1.00	1.06		mg/L		106	70 - 130	2	20
Potassium	12		20.0	32.7		mg/L		102	70 - 130	1	20
Sodium	100		20.0	120	M3	mg/L		90	70 - 130	2	20

Lab Sample ID: MB 550-275660/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276168 — **Prep Batch: 275660**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0980	B1	0.050	mg/L		06/01/22 09:59	06/06/22 21:08	1
Iron	<0.10		0.10	mg/L		06/01/22 09:59	06/06/22 21:08	1
Magnesium	<2.0		2.0	mg/L		06/01/22 09:59	06/06/22 21:08	1
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/06/22 21:08	1

Lab Sample ID: MB 550-275660/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276318 — **Prep Batch: 275660**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050	mg/L		06/01/22 09:59	06/07/22 18:13	1
Iron	<0.10		0.10	mg/L		06/01/22 09:59	06/07/22 18:13	1
Magnesium	<2.0		2.0	mg/L		06/01/22 09:59	06/07/22 18:13	1
Manganese	<0.010		0.010	mg/L		06/01/22 09:59	06/07/22 18:13	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-275660/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276168 — **Prep Batch: 275660**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	1.04		mg/L		104	85 - 115
Iron	1.00	0.951		mg/L		95	85 - 115
Magnesium	21.0	19.8		mg/L		94	85 - 115
Manganese	1.00	0.996		mg/L		100	85 - 115

Lab Sample ID: LCS 550-275660/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276318 — **Prep Batch: 275660**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.991		mg/L		99	85 - 115
Iron	1.00	0.995		mg/L		99	85 - 115
Magnesium	21.0	21.0		mg/L		100	85 - 115
Manganese	1.00	0.933		mg/L		93	85 - 115

Lab Sample ID: LCSD 550-275660/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276168 — **Prep Batch: 275660**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	1.05		mg/L		105	85 - 115	1	20
Iron	1.00	0.997		mg/L		100	85 - 115	5	20
Magnesium	21.0	20.5		mg/L		98	85 - 115	4	20
Manganese	1.00	1.02		mg/L		102	85 - 115	2	20

Lab Sample ID: LCSD 550-275660/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276318 — **Prep Batch: 275660**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	0.998		mg/L		100	85 - 115	1	20
Iron	1.00	1.00		mg/L		100	85 - 115	1	20
Magnesium	21.0	20.8		mg/L		99	85 - 115	1	20
Manganese	1.00	0.935		mg/L		94	85 - 115	0	20

Lab Sample ID: 550-184824-A-2-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276168 — **Prep Batch: 275660**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.24	B1	1.00	1.30		mg/L		106	70 - 130
Iron	0.24	R4	1.00	1.41		mg/L		117	70 - 130
Magnesium	20		21.0	38.5		mg/L		89	70 - 130
Manganese	0.035		1.00	1.05		mg/L		101	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-184824-A-2-A MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276318 — **Prep Batch: 275660**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.24	B1	1.00	1.27		mg/L		102	70 - 130
Iron	0.24	R4	1.00	1.46		mg/L		122	70 - 130
Magnesium	20		21.0	40.4		mg/L		98	70 - 130
Manganese	0.035		1.00	0.976		mg/L		94	70 - 130

Lab Sample ID: 550-184824-A-2-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276168 — **Prep Batch: 275660**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.24	B1	1.00	1.29		mg/L		105	70 - 130	2	20
Iron	0.24	R4	1.00	1.19	R4	mg/L		94	70 - 130	21	20
Magnesium	20		21.0	38.9		mg/L		90	70 - 130	4	20
Manganese	0.035		1.00	1.04		mg/L		100	70 - 130	6	20

Lab Sample ID: 550-184824-A-2-B MSD T — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276318 — **Prep Batch: 275660**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.24	B1	1.00	1.25		mg/L		101	70 - 130	1	20
Iron	0.24	R4	1.00	1.17	R4	mg/L		93	70 - 130	22	20
Magnesium	20		21.0	38.7		mg/L		90	70 - 130	4	20
Manganese	0.035		1.00	0.965		mg/L		93	70 - 130	1	20

Lab Sample ID: MB 280-577755/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020		mg/L		06/12/22 12:41	06/14/22 20:15	1

Lab Sample ID: LCS 280-577755/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.967		mg/L		97	90 - 112

Lab Sample ID: 280-163042-B-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	<0.020		1.00	0.982		mg/L		98	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 280-163042-B-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	<0.020		1.00	0.999		mg/L		100	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-275639/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		05/31/22 20:34	06/07/22 12:56	1
Arsenic	<0.00050		0.00050		mg/L		05/31/22 20:34	06/07/22 12:56	1
Barium	<0.00050		0.00050		mg/L		05/31/22 20:34	06/07/22 12:56	1
Cadmium	<0.00010		0.00010		mg/L		05/31/22 20:34	06/07/22 12:56	1
Chromium	<0.0010		0.0010		mg/L		05/31/22 20:34	06/07/22 12:56	1
Cobalt	<0.00050		0.00050		mg/L		05/31/22 20:34	06/07/22 12:56	1
Lead	<0.00050		0.00050		mg/L		05/31/22 20:34	06/07/22 12:56	1
Molybdenum	<0.00050		0.00050		mg/L		05/31/22 20:34	06/07/22 12:56	1

Lab Sample ID: MB 550-275639/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.00050		0.00050		mg/L		05/31/22 20:34	06/09/22 17:34	1
Selenium	<0.00050		0.00050		mg/L		05/31/22 20:34	06/09/22 17:34	1

Lab Sample ID: MB 550-275639/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00010		0.00010		mg/L		05/31/22 20:34	06/13/22 09:34	1

Lab Sample ID: LCS 550-275639/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0880		mg/L		88	85 - 115
Arsenic	0.100	0.0915		mg/L		91	85 - 115
Barium	0.100	0.100		mg/L		100	85 - 115
Cadmium	0.100	0.0950		mg/L		95	85 - 115
Chromium	0.100	0.0905		mg/L		90	85 - 115
Cobalt	0.100	0.0925		mg/L		92	85 - 115
Lead	0.100	0.0893		mg/L		89	85 - 115
Molybdenum	0.100	0.0943		mg/L		94	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-275639/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0949		mg/L		95	85 - 115
Selenium	0.100	0.0965		mg/L		96	85 - 115

Lab Sample ID: LCS 550-275639/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.0958		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-275639/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0894		mg/L		89	85 - 115	2	20
Arsenic	0.100	0.0915		mg/L		91	85 - 115	0	20
Barium	0.100	0.101		mg/L		101	85 - 115	1	20
Cadmium	0.100	0.0981		mg/L		98	85 - 115	3	20
Chromium	0.100	0.0902		mg/L		90	85 - 115	0	20
Cobalt	0.100	0.0912		mg/L		91	85 - 115	1	20
Lead	0.100	0.0944		mg/L		94	85 - 115	6	20
Molybdenum	0.100	0.0973		mg/L		97	85 - 115	3	20

Lab Sample ID: LCSD 550-275639/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.100	0.0926		mg/L		93	85 - 115	2	20
Selenium	0.100	0.0962		mg/L		96	85 - 115	0	20

Lab Sample ID: LCSD 550-275639/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.100	0.0954		mg/L		95	85 - 115	0	20

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0010		0.100	0.0912		mg/L		91	70 - 130
Arsenic	0.0012		0.100	0.0964		mg/L		95	70 - 130
Barium	0.0068		0.100	0.108		mg/L		101	70 - 130
Cadmium	<0.00010		0.100	0.0970		mg/L		97	70 - 130
Chromium	0.0017		0.100	0.0913		mg/L		90	70 - 130
Cobalt	<0.00050		0.100	0.0924		mg/L		92	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	<0.00050		0.100	0.0902		mg/L		90	70 - 130
Molybdenum	0.0045		0.100	0.103		mg/L		98	70 - 130

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.00086		0.100	0.0997		mg/L		99	70 - 130
Selenium	0.00095		0.100	0.102		mg/L		101	70 - 130

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.00035		0.100	0.101		mg/L		101	70 - 130

Lab Sample ID: 550-184761-AF-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0010		0.100	0.0939		mg/L		94	70 - 130	3	20
Arsenic	0.0012		0.100	0.0992		mg/L		98	70 - 130	3	20
Barium	0.0068		0.100	0.113		mg/L		106	70 - 130	5	20
Cadmium	<0.00010		0.100	0.100		mg/L		100	70 - 130	3	20
Chromium	0.0017		0.100	0.0943		mg/L		93	70 - 130	3	20
Cobalt	<0.00050		0.100	0.0946		mg/L		95	70 - 130	2	20
Lead	<0.00050		0.100	0.0958		mg/L		96	70 - 130	6	20
Molybdenum	0.0045		0.100	0.105		mg/L		101	70 - 130	2	20

Lab Sample ID: 550-184761-AF-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.00086		0.100	0.0972		mg/L		96	70 - 130	3	20
Selenium	0.00095		0.100	0.0979		mg/L		97	70 - 130	4	20

Lab Sample ID: 550-184761-AF-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.00035		0.100	0.104		mg/L		103	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-275652/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010		mg/L		06/01/22 08:40	06/14/22 12:36	1
Arsenic	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Barium	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Cadmium	<0.00010		0.00010		mg/L		06/01/22 08:40	06/14/22 12:36	1
Chromium	<0.0010		0.0010		mg/L		06/01/22 08:40	06/14/22 12:36	1
Cobalt	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Lead	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Molybdenum	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Selenium	<0.00050		0.00050		mg/L		06/01/22 08:40	06/14/22 12:36	1
Thallium	<0.00010		0.00010		mg/L		06/01/22 08:40	06/14/22 12:36	1

Lab Sample ID: LCS 550-275652/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			0.100	0.0915		mg/L		91	85 - 115		
Arsenic			0.100	0.101		mg/L		101	85 - 115		
Barium			0.100	0.101		mg/L		101	85 - 115		
Cadmium			0.100	0.0987		mg/L		99	85 - 115		
Chromium			0.100	0.106		mg/L		106	85 - 115		
Cobalt			0.100	0.106		mg/L		106	85 - 115		
Lead			0.100	0.0949		mg/L		95	85 - 115		
Molybdenum			0.100	0.101		mg/L		101	85 - 115		
Selenium			0.100	0.0978		mg/L		98	85 - 115		
Thallium			0.100	0.0901		mg/L		90	85 - 115		

Lab Sample ID: LCSD 550-275652/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony			0.100	0.0919		mg/L		92	85 - 115	0	20
Arsenic			0.100	0.101		mg/L		101	85 - 115	0	20
Barium			0.100	0.101		mg/L		101	85 - 115	0	20
Cadmium			0.100	0.0989		mg/L		99	85 - 115	0	20
Chromium			0.100	0.105		mg/L		105	85 - 115	1	20
Cobalt			0.100	0.108		mg/L		108	85 - 115	2	20
Lead			0.100	0.0951		mg/L		95	85 - 115	0	20
Molybdenum			0.100	0.0995		mg/L		99	85 - 115	1	20
Selenium			0.100	0.0993		mg/L		99	85 - 115	1	20
Thallium			0.100	0.0921		mg/L		92	85 - 115	2	20

Lab Sample ID: 550-184772-18 MS — **Client Sample ID: FC-CCR-SUMP10-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	<0.0020	D1	0.100	0.0935	D1	mg/L		93	70 - 130		

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184772-18 MS — **Client Sample ID: FC-CCR-SUMP10-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	<0.0010	D1	0.100	0.103	D1	mg/L		103	70 - 130
Barium	0.015	D1	0.100	0.119	D1	mg/L		104	70 - 130
Cadmium	0.00096	D1	0.100	0.0960	D1	mg/L		95	70 - 130
Chromium	<0.0020	D1	0.100	0.103	D1	mg/L		102	70 - 130
Cobalt	0.18	D1	0.100	0.276	D1	mg/L		96	70 - 130
Lead	<0.0010	D1	0.100	0.0935	D1	mg/L		93	70 - 130
Molybdenum	<0.0010	D1	0.100	0.105	D1	mg/L		104	70 - 130
Selenium	0.0012	D1	0.100	0.107	D1	mg/L		106	70 - 130
Thallium	0.00060	D1	0.100	0.0880	D1	mg/L		87	70 - 130

Lab Sample ID: 550-184772-18 MSD — **Client Sample ID: FC-CCR-SUMP10-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276833 — **Prep Batch: 275652**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0020	D1	0.100	0.0952	D1	mg/L		95	70 - 130	2	20
Arsenic	<0.0010	D1	0.100	0.108	D1	mg/L		108	70 - 130	5	20
Barium	0.015	D1	0.100	0.119	D1	mg/L		104	70 - 130	1	20
Cadmium	0.00096	D1	0.100	0.0967	D1	mg/L		96	70 - 130	1	20
Chromium	<0.0020	D1	0.100	0.105	D1	mg/L		104	70 - 130	2	20
Cobalt	0.18	D1	0.100	0.280	D1	mg/L		100	70 - 130	1	20
Lead	<0.0010	D1	0.100	0.0920	D1	mg/L		91	70 - 130	2	20
Molybdenum	<0.0010	D1	0.100	0.107	D1	mg/L		106	70 - 130	2	20
Selenium	0.0012	D1	0.100	0.113	D1	mg/L		112	70 - 130	6	20
Thallium	0.00060	D1	0.100	0.0859	D1	mg/L		85	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-275923/26 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275923

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:44	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:44	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:44	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 18:44	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 18:44	1

Lab Sample ID: MB 550-275923/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275923

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 15:35	1
Bicarbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 15:35	1
Carbonate Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 15:35	1
Alkalinity, Phenolphthalein	<6.0		6.0	mg/L			06/02/22 15:35	1
Hydroxide Alkalinity as CaCO3	<6.0		6.0	mg/L			06/02/22 15:35	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 550-275923/25
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	249		mg/L		100	90 - 110		

Lab Sample ID: LCS 550-275923/3
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	259		mg/L		104	90 - 110		

Lab Sample ID: LCSD 550-275923/12
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	251		mg/L		100	90 - 110	3	20

Lab Sample ID: LCSD 550-275923/38
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	248		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-184801-W-1 DU
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	120			125		mg/L				0	20
Bicarbonate Alkalinity as CaCO3	120			125		mg/L				0	20
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Lab Sample ID: 550-184880-Q-5 DU
Matrix: Water
Analysis Batch: 275923

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	190			188		mg/L				0.3	20
Bicarbonate Alkalinity as CaCO3	190			188		mg/L				0.3	20
Carbonate Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20
Alkalinity, Phenolphthalein	<6.0			<6.0		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	<6.0			<6.0		mg/L				NC	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-184880-Q-6 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275923

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	130		134		mg/L		0.08	20
Bicarbonate Alkalinity as CaCO3	130		134		mg/L		0.08	20
Carbonate Alkalinity as CaCO3	<6.0		<6.0		mg/L		NC	20
Alkalinity, Phenolphthalein	<6.0		<6.0		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	<6.0		<6.0		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275452/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20	mg/L			05/27/22 17:04	1

Lab Sample ID: LCS 550-275452/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	986		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-275452/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	976		mg/L		98	90 - 110	1	10

Lab Sample ID: 550-184772-2 DU — **Client Sample ID: FC-CCR-DMX04-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	10000	D2	10500	D2	mg/L		2	10

Lab Sample ID: MB 550-275610/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275610

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20	mg/L			05/31/22 15:30	1

Lab Sample ID: LCS 550-275610/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275610

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	994		mg/L		99	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-275610/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275610

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1020		mg/L		102	90 - 110	3	10

Lab Sample ID: 550-184772-16 DU — **Client Sample ID: FC-CCR-SUMP7-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275610

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	11000	D2		10600	D2	mg/L				2	10

Lab Sample ID: 550-184772-21 DU — **Client Sample ID: FC-CCR-SUMP13-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275610

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	7100	D2		7700	D2	mg/L				8	10

Lab Sample ID: MB 550-275734/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			06/01/22 16:31	1

Lab Sample ID: LCS 550-275734/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1070		mg/L		107	90 - 110		

Lab Sample ID: LCSD 550-275734/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1060		mg/L		106	90 - 110	1	10

Lab Sample ID: 550-184859-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275734

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1240		mg/L				4	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 550-2-A-2 LCSSRM — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.900		SU		98.6	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275986/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.893		SU		98.5	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-275986/61 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.962		SU		99.5	98.5 - 101.5		

Lab Sample ID: 550-184772-2 DU — **Client Sample ID: FC-CCR-DMX04-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.76	H5		7.765	H5	SU				0.08	5
Temperature	11.4	H5		12.60	H5	Degrees C				10	

Lab Sample ID: 550-184772-12 DU — **Client Sample ID: FC-CCR-MW38R-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275986

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.45	H5		7.473	H5	SU				0.2	5
Temperature	13.3	H5		13.10	H5	Degrees C				2	

Lab Sample ID: LCSSRM 550-276198/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276198

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.930		SU		99.0	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-276198/29 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276198

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.930		SU		99.0	98.5 - 101.5		

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-184771-A-3 DU
Matrix: Water
Analysis Batch: 276198

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.53	H5		7.540	H5	SU				0.1	5
Temperature	14.1	H5		13.40	H5	Degrees C				5	

HPLC/IC

Analysis Batch: 275566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	300.0	
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	300.0	
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	300.0	
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	300.0	
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	300.0	
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	300.0	
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	300.0	
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	300.0	
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	300.0	
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	300.0	
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	300.0	
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	300.0	
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	300.0	
MB 550-275566/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275566/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275566/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184772-14 MS	FC-CCR-SUMP2-0522	Total/NA	Water	300.0	
550-184772-14 MSD	FC-CCR-SUMP2-0522	Total/NA	Water	300.0	

Analysis Batch: 275567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	300.0	
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	300.0	
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	300.0	
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	300.0	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	300.0	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	300.0	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	300.0	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	300.0	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	300.0	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	300.0	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	300.0	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	300.0	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	300.0	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	300.0	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	300.0	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	300.0	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	300.0	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	300.0	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	300.0	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	300.0	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	300.0	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	300.0	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	300.0	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	300.0	
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	300.0	
MB 550-275567/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275567/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275567/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184772-1 MS	FC-CCR-DMX03-0522	Total/NA	Water	300.0	
550-184772-1 MS	FC-CCR-DMX03-0522	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 275567 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1 MSD	FC-CCR-DMX03-0522	Total/NA	Water	300.0	
550-184772-1 MSD	FC-CCR-DMX03-0522	Total/NA	Water	300.0	

Analysis Batch: 275595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	300.0	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	300.0	
MB 550-275595/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275595/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275595/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184768-E-3 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-184768-E-3 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 275622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7	
MB 550-275622/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275622/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275622/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184324-C-1-C MS	Matrix Spike	Total/NA	Water	200.7	
550-184324-C-1-C MS T	Matrix Spike	Total/NA	Water	200.7	
550-184324-C-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-184324-C-1-D MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 275638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7	
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	200.7	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7	
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	200.7	
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	200.7	
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.7	
MB 550-275638/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275638/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275638/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184766-H-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-184766-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 275639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 275639 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.8	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.8	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.8	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.8	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.8	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.8	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.8	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.8	
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8	
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 275652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	200.8	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.8	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.8	
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	200.8	
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	200.8	
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.8	
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	200.8	
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	200.8	
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	200.8	
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	200.8	
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	200.8	
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	200.8	
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	200.8	
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	200.8	
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.8	
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.8	
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.8	
MB 550-275652/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275652/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275652/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184772-18 MS	FC-CCR-SUMP10-0522	Total/NA	Water	200.8	
550-184772-18 MSD	FC-CCR-SUMP10-0522	Total/NA	Water	200.8	

Prep Batch: 275660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	200.7	
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	200.7	
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	200.7	
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	200.7	
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	200.7	
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	200.7	
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	200.7	
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	200.7	
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.7	
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 275660 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.7	
MB 550-275660/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275660/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275660/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184824-A-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-184824-A-2-A MS T	Matrix Spike	Total/NA	Water	200.7	
550-184824-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-184824-A-2-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 275780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7 Rev 4.4	275622
MB 550-275622/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275622
LCS 550-275622/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275622
LCSD 550-275622/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275622
550-184324-C-1-C MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275622
550-184324-C-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275622

Analysis Batch: 275782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.7 Rev 4.4	275638
MB 550-275638/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275638
LCS 550-275638/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275638
LCSD 550-275638/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275638
550-184766-H-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275638
550-184766-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275638

Analysis Batch: 275999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7 Rev 4.4	275622

Metals (Continued)

Analysis Batch: 275999 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7 Rev 4.4	275622
MB 550-275622/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275622
LCS 550-275622/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275622
LCSD 550-275622/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275622
550-184324-C-1-C MS T	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275622
550-184324-C-1-D MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275622

Analysis Batch: 276167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.7 Rev 4.4	275638
MB 550-275638/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275638
LCS 550-275638/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275638
LCSD 550-275638/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275638
550-184766-H-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275638
550-184766-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275638

Analysis Batch: 276168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.7 Rev 4.4	275660
MB 550-275660/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275660
LCS 550-275660/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275660
LCSD 550-275660/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275660
550-184824-A-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275660
550-184824-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275660

Metals

Analysis Batch: 276217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8 LL	275639
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275639
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.8 LL	275639
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.8 LL	275639
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.8 LL	275639
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.8 LL	275639
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.8 LL	275639
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.8 LL	275639
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.8 LL	275639
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.8 LL	275639
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7 Rev 4.4	275638
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	200.7 Rev 4.4	275638

Analysis Batch: 276318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.7 Rev 4.4	275660
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.7 Rev 4.4	275660
MB 550-275660/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275660
LCS 550-275660/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275660
LCSD 550-275660/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275660
550-184824-A-2-A MS T	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275660
550-184824-A-2-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275660

Analysis Batch: 276679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.8 LL	275639
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.8 LL	275639
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.8 LL	275639
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.8 LL	275639
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8 LL	275639
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275639
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.8 LL	275639
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.8 LL	275639

Metals (Continued)

Analysis Batch: 276709 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8 LL	275639
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275639
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.8 LL	275639
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.8 LL	275652
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.8 LL	275652
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.8 LL	275652
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	200.8 LL	275652
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	200.8 LL	275652
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.8 LL	275652
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	200.8 LL	275652
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	200.8 LL	275652
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	200.8 LL	275652
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	200.8 LL	275652
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	200.8 LL	275652
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	200.8 LL	275652
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	200.8 LL	275652
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	200.8 LL	275652
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.8 LL	275652
MB 550-275652/1-A	Method Blank	Total/NA	Water	200.8 LL	275652
LCS 550-275652/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275652
LCSD 550-275652/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275652
550-184772-18 MS	FC-CCR-SUMP10-0522	Total/NA	Water	200.8 LL	275652
550-184772-18 MSD	FC-CCR-SUMP10-0522	Total/NA	Water	200.8 LL	275652

Analysis Batch: 276874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	200.8 LL	275652
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	200.8 LL	275652
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	200.8 LL	275652
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.8 LL	275652
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.8 LL	275652

Analysis Batch: 276895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	200.8 LL	275652
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	200.8 LL	275652
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	200.8 LL	275652

Prep Batch: 577755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 577755 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7	
MB 280-577755/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577755/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-163042-B-1-C MS	Matrix Spike	Total/NA	Water	200.7	
280-163042-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 578102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	200.7 Rev 4.4	577755
MB 280-577755/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577755
LCS 280-577755/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577755
280-163042-B-1-C MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577755
280-163042-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577755

General Chemistry

Analysis Batch: 275452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	SM 2540C	
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	SM 2540C	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	SM 2540C	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	SM 2540C	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	SM 2540C	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	SM 2540C	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	SM 2540C	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	SM 2540C	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	SM 2540C	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	SM 2540C	
MB 550-275452/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275452/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275452/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184772-2 DU	FC-CCR-DMX04-0522	Total/NA	Water	SM 2540C	

General Chemistry

Analysis Batch: 275610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	SM 2540C	
550-184772-13	FC-CCR-SUMP1-0522	Total/NA	Water	SM 2540C	
550-184772-14	FC-CCR-SUMP2-0522	Total/NA	Water	SM 2540C	
550-184772-15	FC-CCR-SUMP3-0522	Total/NA	Water	SM 2540C	
550-184772-16	FC-CCR-SUMP7-0522	Total/NA	Water	SM 2540C	
550-184772-17	FC-CCR-SUMP9-0522	Total/NA	Water	SM 2540C	
550-184772-18	FC-CCR-SUMP10-0522	Total/NA	Water	SM 2540C	
550-184772-19	FC-CCR-SUMP11-0522	Total/NA	Water	SM 2540C	
550-184772-20	FC-CCR-SUMP12-0522	Total/NA	Water	SM 2540C	
550-184772-21	FC-CCR-SUMP13-0522	Total/NA	Water	SM 2540C	
550-184772-22	FC-CCR-SUMP14-0522	Total/NA	Water	SM 2540C	
550-184772-23	FC-CCR-SUMP15-0522	Total/NA	Water	SM 2540C	
550-184772-24	FC-CCR-SUMP16-0522	Total/NA	Water	SM 2540C	
550-184772-25	FC-CCR-SUMP17-0522	Total/NA	Water	SM 2540C	
550-184772-26	FC-CCR-SUMP18-0522	Total/NA	Water	SM 2540C	
MB 550-275610/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275610/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275610/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184772-16 DU	FC-CCR-SUMP7-0522	Total/NA	Water	SM 2540C	
550-184772-21 DU	FC-CCR-SUMP13-0522	Total/NA	Water	SM 2540C	

Analysis Batch: 275734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	SM 2540C	
MB 550-275734/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275734/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275734/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184859-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 275923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	SM 2320B	
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	SM 2320B	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	SM 2320B	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	SM 2320B	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	SM 2320B	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	SM 2320B	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	SM 2320B	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	SM 2320B	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	SM 2320B	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	SM 2320B	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	SM 2320B	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	SM 2320B	
MB 550-275923/26	Method Blank	Total/NA	Water	SM 2320B	
MB 550-275923/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-275923/25	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-275923/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-275923/12	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-275923/38	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-184801-W-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-184880-Q-5 DU	Duplicate	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 275923 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184880-Q-6 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 275986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-2	FC-CCR-DMX04-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-3	FC-CCR-MW05-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-4	FC-CCR-MW06-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-5	FC-CCR-MW11-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-6	FC-CCR-MW16-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-7	FC-CCR-MW17R-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-8	FC-CCR-MW18-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-9	FC-CCR-MW23R-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-10	FC-CCR-MW24-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-11	FC-CCR-MW36R-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-12	FC-CCR-MW38R-0522	Total/NA	Water	SM 4500 H+ B	
550-2-A-2 LCSSRM	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-275986/61	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184772-2 DU	FC-CCR-DMX04-0522	Total/NA	Water	SM 4500 H+ B	
550-184772-12 DU	FC-CCR-MW38R-0522	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 276198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184772-1	FC-CCR-DMX03-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/29	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184771-A-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX03-0522

Lab Sample ID: 550-184772-1
Matrix: Water
Date Collected: 05/25/22 11:25
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 10:50	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 12:13	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 19:59	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276167	06/06/22 20:21	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 20:24	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 21:36	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:41	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:09	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		4	276727	06/13/22 11:37	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 17:42	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Client Sample ID: FC-CCR-DMX04-0522

Lab Sample ID: 550-184772-2
Matrix: Water
Date Collected: 05/25/22 13:50
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 13:37	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 14:05	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:02	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	276167	06/06/22 20:26	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 20:29	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 21:40	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:43	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:11	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		4	276727	06/13/22 11:39	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 17:02	VOS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX04-0522 — Lab Sample ID: 550-184772-2

Date Collected: 05/25/22 13:50 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:43	CXK	TAL PHX

Client Sample ID: FC-CCR-MW05-0522 — Lab Sample ID: 550-184772-3

Date Collected: 05/25/22 12:15 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 14:33	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 15:01	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:04	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276167	06/06/22 20:31	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 20:34	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 21:44	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:45	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 17:10	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:49	CXK	TAL PHX

Client Sample ID: FC-CCR-MW06-0522 — Lab Sample ID: 550-184772-4

Date Collected: 05/25/22 15:30 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1000	275595	05/31/22 13:38	AS1	TAL PHX
Total/NA	Analysis	300.0		2	275567	05/28/22 16:25	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 16:53	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:07	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276167	06/06/22 20:37	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	276314	06/07/22 17:39	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:04	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:47	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW06-0522 — Lab Sample ID: 550-184772-4

Date Collected: 05/25/22 15:30 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:13	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276709	06/13/22 10:10	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 17:24	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:52	CXK	TAL PHX

Client Sample ID: FC-CCR-MW11-0522 — Lab Sample ID: 550-184772-5

Date Collected: 05/26/22 12:28 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5000	275595	05/31/22 13:19	AS1	TAL PHX
Total/NA	Analysis	300.0		2	275567	05/28/22 17:21	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 17:49	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	276167	06/06/22 20:42	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		50	276314	06/07/22 17:42	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276895	06/15/22 09:25	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 19:03	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275734		CHS	TAL PHX
					(Start)	06/01/22 16:31		
					(End)	06/02/22 13:15		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:54	CXK	TAL PHX

Client Sample ID: FC-CCR-MW16-0522 — Lab Sample ID: 550-184772-6

Date Collected: 05/26/22 14:15 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 18:16	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 18:44	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:12	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276167	06/06/22 20:52	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 20:55	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW16-0522

Lab Sample ID: 550-184772-6
Matrix: Water

Date Collected: 05/26/22 14:15
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:08	LMT	TAL DEN
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 12:45	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276833	06/14/22 12:49	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 19:22	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:56	CXK	TAL PHX

Client Sample ID: FC-CCR-MW17R-0522

Lab Sample ID: 550-184772-7
Matrix: Water

Date Collected: 05/25/22 16:25
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 19:12	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 19:40	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:07	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275999	06/03/22 08:45	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 08:48	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:12	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:49	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:16	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276709	06/13/22 10:12	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 17:55	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 14:59	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW18-0522

Lab Sample ID: 550-184772-8
Matrix: Water

Date Collected: 05/25/22 13:05
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 20:08	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 20:36	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:10	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	275999	06/03/22 08:55	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 08:58	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:16	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:58	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 18:02	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 15:01	CXK	TAL PHX

Client Sample ID: FC-CCR-MW23R-0522

Lab Sample ID: 550-184772-9
Matrix: Water

Date Collected: 05/25/22 09:58
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 22:00	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 22:28	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:12	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	275999	06/03/22 09:01	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 09:03	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:20	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:52	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 18:17	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 15:04	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW24-0522

Lab Sample ID: 550-184772-10

Date Collected: 05/25/22 14:50
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 22:56	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/28/22 23:24	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:15	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	275999	06/03/22 09:06	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 09:08	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:24	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:54	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 18:27	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 15:07	CXK	TAL PHX

Client Sample ID: FC-CCR-MW36R-0522

Lab Sample ID: 550-184772-11

Date Collected: 05/25/22 10:40
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/28/22 23:52	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/29/22 00:20	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:18	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275999	06/03/22 09:11	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 09:14	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:28	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276288	06/07/22 14:56	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 20:46	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 15:11	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW38R-0522

Lab Sample ID: 550-184772-12
Date Collected: 05/25/22 17:25
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275567	05/29/22 00:48	RDC	TAL PHX
Total/NA	Analysis	300.0		200	275567	05/29/22 01:16	RDC	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:20	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	275999	06/03/22 09:16	MGM	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275999	06/03/22 09:19	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 22:32	LMT	TAL DEN
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 12:47	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	275923	06/02/22 19:33	VOS	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	275986	06/03/22 15:15	CXK	TAL PHX

Client Sample ID: FC-CCR-SUMP1-0522

Lab Sample ID: 550-184772-13
Date Collected: 05/26/22 08:00
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275567	05/29/22 01:43	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:20	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 21:05	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 12:57	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP2-0522

Lab Sample ID: 550-184772-14
Date Collected: 05/26/22 08:11
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 11:17	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:15	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 20:57	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP2-0522

Lab Sample ID: 550-184772-14
Date Collected: 05/26/22 08:11
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 12:59	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP3-0522

Lab Sample ID: 550-184772-15
Date Collected: 05/26/22 08:30
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 12:41	RDC	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275782	06/01/22 20:17	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	276167	06/06/22 21:00	MGM	TAL PHX
Total/NA	Prep	200.7			275638	05/31/22 19:52	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276167	06/06/22 21:03	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:01	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276874	06/14/22 15:24	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP7-0522

Lab Sample ID: 550-184772-16
Date Collected: 05/26/22 08:38
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 13:09	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:34	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:04	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP9-0522 — Lab Sample ID: 550-184772-17

Date Collected: 05/26/22 08:48 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 13:37	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:36	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:08	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276874	06/14/22 15:26	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP10-0522 — Lab Sample ID: 550-184772-18

Date Collected: 05/26/22 09:00 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 14:05	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:39	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 12:32	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP11-0522 — Lab Sample ID: 550-184772-19

Date Collected: 05/26/22 09:08 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 14:33	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:42	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:10	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP12-0522 — Lab Sample ID: 550-184772-20

Date Collected: 05/26/22 09:18 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 15:01	RDC	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP12-0522 — Lab Sample ID: 550-184772-20

Date Collected: 05/26/22 09:18 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275660	06/01/22 10:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 22:13	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:16	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP13-0522 — Lab Sample ID: 550-184772-21

Date Collected: 05/26/22 09:28 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 16:52	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:44	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:18	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP14-0522 — Lab Sample ID: 550-184772-22

Date Collected: 05/26/22 09:38 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 17:20	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:47	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:20	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP15-0522 — Lab Sample ID: 550-184772-23

Date Collected: 05/26/22 09:45 — **Matrix: Water**
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	275566	05/28/22 17:48	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:49	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP15-0522

Lab Sample ID: 550-184772-23
Date Collected: 05/26/22 09:45
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	276318	06/07/22 18:34	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:22	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP16-0522

Lab Sample ID: 550-184772-24
Date Collected: 05/26/22 09:50
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100	275566	05/28/22 18:16	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:52	MGM	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	276318	06/07/22 18:36	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	276833	06/14/22 13:25	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276874	06/14/22 15:29	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Client Sample ID: FC-CCR-SUMP17-0522

Lab Sample ID: 550-184772-25
Date Collected: 05/26/22 10:00
Matrix: Water
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100	275566	05/28/22 18:44	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:55	MGM	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276318	06/07/22 18:39	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276874	06/14/22 15:31	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276895	06/15/22 09:32	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP18-0522

Lab Sample ID: 550-184772-26

Date Collected: 05/26/22 10:10
Date Received: 05/27/22 14:05

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100	275566	05/28/22 19:12	RDC	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	276168	06/06/22 21:57	MGM	TAL PHX
Total/NA	Prep	200.7			275660	06/01/22 09:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	276318	06/07/22 18:42	MGM	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276874	06/14/22 15:33	ARE	TAL PHX
Total/NA	Prep	200.8			275652	06/01/22 08:40	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	276895	06/15/22 09:34	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	275610		CHS	TAL PHX
					(Start)	05/31/22 15:30		
					(End)	06/01/22 16:00		

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184772-1
SDG: APS Four Corners Power Plant (Other)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

184772

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 4 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Fe)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as	Sample Specific Notes:
FC-CCR-DMX03-0522 -01	5/25/2022	11:25	G	W	2	N		X						X	X			X	X	X	"
FC-CCR-DMX04-0522 -02	5/25/2022	13:50	G	W	2	N		X						X	X			X	X	X	"
FC-CCR-MW05-0522 -03	5/25/2022	12:15	G	W	2	N		X						X		X		X	X	X	"
FC-CCR-MW06-0522 -04	5/26/2022	15:30	G	W	2	N		X						X	X			X	X	X	"
FC-CCR-MW11-0522 -05	5/26/2022	12:28	G	W	2	N		X				X				X		X	X	X	"
FC-CCR-MW16-0522 -06	5/26/2022	14:15	G	W	2	N		X			X				X			X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	4	4	1	1	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.6°C, 0.3°C, 0.5°C ICE CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 5/27/22 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WDOL	14:05			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EEA DAY	Date/Time: 5-27-22 1405

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

550-184772 Chain of Custody

184772

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 4 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)					Sample Specific Notes:
FC-CCR-MW17R-0522 -07	5/25/2022	16:25	G	W	2	N		X						X	X			X	X	X					Low Flow
FC-CCR-MW18-0522 5/27/22 ~~-08~~ 08	5/25/2022	13:05	G	W	2	N		X						X		X		X	X	X					"
FC-CCR-MW23R-0522 -09	5/25/2022	9:58	G	W	2	N		X						X		X		X	X	X					"
FC-CCR-MW24-0522 -10	5/25/2022	14:50	G	W	2	N		X						X		X		X	X	X					"
FC-CCR-MW36R-0522 -11	5/25/2022	10:40	G	W	2	N		X						X		X		X	X	X					"
FC-CCR-MW38R-0522 -12	5/25/2022	17:25	G	W	2	N		X						X	X			X	X	X					"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	4	4	1	1	1					

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.6°C, 0.3°C, 0.2°C ice chs

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No.: 5/27/22 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Wood	14:05			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				EEN PHX	5-27-22 1405

184772

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

6/17/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	3 of 4 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl)	EPA 200.7 - Totals (B, Mg, Mn, Fe)	EPA 200.8 - Totals (Co, Mo)	SM 2540C (TDS)	Sample Specific Notes:
FC-CCR-SUMP1-0522 -13	5/26/2022	8:00	G	W	2	N		X	X	X	X	Grab sample
FC-CCR-SUMP2-0522 -14	5/26/2022	8:11	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP3-0522 -15	5/26/2022	8:30	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP7-0522 -16	5/26/2022	8:38	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP9-0522 -17	5/26/2022	8:48	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP10-0522 -18	5/26/2022	9:00	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP11-0522 -19	5/26/2022	9:08	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP12-0522 -20	5/26/2022	9:18	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP13-0522 -21	5/26/2022	9:28	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP14-0522 -22	5/26/2022	9:38	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP15-0522 -23	5/26/2022	9:45	G	W	2	N		X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☑ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.6°C 0.8°C 0.3°C IR COD

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 5127122 | Cooler Temp. (°C): Obs'd _____ Corr'd _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood	14:05			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EPA Dix	Date/Time: 5-27-22 1405

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

184772

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No.
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	4 of 4 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl)	EPA 200.7 - Totals (B, Mg, Mn, Fe)	EPA 200.8 - Totals (Co, Mo)	SM 2540C (TDS)	Sample Specific Notes:
FC-CCR-SUMP16-0522 -24	5/26/2022	9:50	G	W	2	N		X	X	X	X	Grab Sample
FC-CCR-SUMP17-0522 -25	5/26/2022	10:00	G	W	2	N		X	X	X	X	"
FC-CCR-SUMP18-0522 -26	5/26/2022	10:10	G	W	2	N		X	X	X	X	"
								1	4	4	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☑ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.6°C, 0.8°C, 0.2°C ice cnd

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 5/27/22 | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	Wood.	14:05			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EPA Div	Date/Time: 5-27-22 1405

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34125.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184772-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/13/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CRR-DMX03-0522 (550-184772-1)	5/25/22	11:25 Arizona		Water			X	1	AZ Sample
FC-CRR-DMX04-0522 (550-184772-2)	5/25/22	13:50 Arizona		Water			X	1	AZ Sample
FC-CRR-MW05-0522 (550-184772-3)	5/25/22	12:15 Arizona		Water			X	1	AZ Sample
FC-CRR-MW06-0522 (550-184772-4)	5/25/22	15:30 Arizona		Water			X	1	AZ Sample
FC-CRR-MW16-0522 (550-184772-6)	5/26/22	14:15 Arizona		Water			X	1	AZ Sample
FC-CRR-MW17R-0522 (550-184772-7)	5/25/22	16:25 Arizona		Water			X	1	AZ Sample
FC-CRR-MW18-0522 (550-184772-8)	5/25/22	13:05 Arizona		Water			X	1	AZ Sample
FC-CRR-MW23R-0522 (550-184772-9)	5/25/22	09:58 Arizona		Water			X	1	AZ Sample
FC-CRR-MW24-0522 (550-184772-10)	5/25/22	14:50 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature] 05-31-22	Date/Time: 13:45	Company: ECTSW	Received by: [signature]	Date/Time:	Company
Relinquished by: Fedex	Date/Time:	Company	Received by: [signature]	Date/Time: 6/1/22 945	Company: ETA/DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☑ Yes Δ No | Custody Seal No.: 1940833 | Cooler Temperature(s) °C and Other Remarks: 0 5 IR12 CF+0.1

Ver: 06/08/2021

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34125.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184772-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/13/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
FC-CRR-MW36R-0522 (550-184772-11)	5/25/22	10:40 Arizona		Water			X	1	AZ Sample
FC-CRR-MW38R-0522 (550-184772-12)	5/25/22	17:25 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Emee 05-31-22	Date/Time: 13:45 EETSW	Company	Received by: Fedex	Date/Time:	Company
Relinquished by: Fedex	Date/Time:	Company	Received by: [signature]	Date/Time: 6/1/22 945	Company ETA/DEA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Λ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184772-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 184772
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184772-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 184772
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 06/01/22 04:59 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-184771-1
Laboratory SDG: APS Four Corners Power Plant (Multiunit)
Client Project/Site: CCR Groundwater Monitoring
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/17/2022 11:06:10 AM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS
Review your project results through my EOL
Have a Question? Ask The Expert
Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-184771-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-184771-1

Comments
The report being provided is a revision of the original report sent on 6/17/2022. The report (revision 1) is being revised due to: Site location revised.

No additional comments.

Receipt
The samples were received on 5/27/2022 2:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.2º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-275780 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. FC-CCR-MW07-0522 (550-184771-1), FC-CCR-EB01-0522 (550-184771-2) and FC-CCR-MW49A-0522 (550-184771-3)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184771-1
SDG: APS Four Corners Power Plant (Multiunit)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-184771-1	FC-CCR-MW07-0522	Water	05/26/22 13:30	05/27/22 14:05
550-184771-2	FC-CCR-EB01-0522	Water	05/26/22 16:00	05/27/22 14:05
550-184771-3	FC-CCR-MW49A-0522	Water	05/26/22 11:13	05/27/22 14:05

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184771-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW07-0522 — Lab Sample ID: 550-184771-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	670	D2	400	mg/L	200		300.0	Total/NA
Sulfate	6000	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.95		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	7.3		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	370		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00052		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.015		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0046		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.0095	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	10000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.66	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.1	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-EB01-0522 — Lab Sample ID: 550-184771-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	5.57	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.7	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW49A-0522 — Lab Sample ID: 550-184771-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	460	D2	400	mg/L	200		300.0	Total/NA
Sulfate	14000	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.82		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.023		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00030		0.00010	mg/L	1		200.8 LL	Total/NA
Chromium	0.0040		0.0010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0016		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.037		0.00050	mg/L	1		200.8 LL	Total/NA
Thallium	0.0016	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	16000	D2	1000	mg/L	1		SM 2540C	Total/NA
pH	7.53	H5	1.68	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.1	H5	0.100	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184771-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW07-0522

Lab Sample ID: 550-184771-1
Date Collected: 05/26/22 13:30
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**670**	**D2**	400	mg/L			05/27/22 22:39	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 21:25	2
Sulfate	**6000**	**D2**	400	mg/L			05/27/22 22:39	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 17:59	1
Lithium	**0.95**		0.020	mg/L		06/12/22 12:41	06/14/22 21:24	1
Boron	**7.3**		0.050	mg/L		05/31/22 16:29	06/01/22 17:59	1
Calcium	**370**		2.0	mg/L		05/31/22 16:29	06/01/22 17:59	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/31/22 20:34	06/07/22 14:31	1
Arsenic	**0.00052**		0.00050	mg/L		05/31/22 20:34	06/07/22 14:31	1
Barium	**0.015**		0.00050	mg/L		05/31/22 20:34	06/07/22 14:31	1
Cadmium	<0.00010		0.00010	mg/L		05/31/22 20:34	06/07/22 14:31	1
Chromium	<0.0010		0.0010	mg/L		05/31/22 20:34	06/07/22 14:31	1
Cobalt	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 14:31	1
Lead	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 14:31	1
Molybdenum	**0.0046**		0.00050	mg/L		05/31/22 20:34	06/07/22 14:31	1
Selenium	**0.0095**	**D1**	0.0010	mg/L		05/31/22 20:34	06/09/22 18:03	2
Thallium	<0.00020	D1	0.00020	mg/L		05/31/22 20:34	06/13/22 09:59	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/31/22 15:50	05/31/22 22:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**10000**	**D2**	100	mg/L			05/27/22 17:04	1
pH	**7.66**	**H5**	1.68	SU			06/07/22 11:19	1
Temperature	**13.1**	**H5**	0.100	Degrees C			06/07/22 11:19	1

Client Sample ID: FC-CCR-EB01-0522

Lab Sample ID: 550-184771-2
Date Collected: 05/26/22 16:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0	mg/L			05/28/22 00:29	1
Fluoride	<0.40		0.40	mg/L			05/28/22 00:29	1
Sulfate	<2.0		2.0	mg/L			05/28/22 00:29	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:02	1
Lithium	<0.020		0.020	mg/L		06/12/22 12:41	06/14/22 21:28	1
Boron	<0.050		0.050	mg/L		05/31/22 16:29	06/01/22 18:02	1
Calcium	<2.0		2.0	mg/L		05/31/22 16:29	06/01/22 18:02	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184771-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-EB01-0522

Lab Sample ID: 550-184771-2
Date Collected: 05/26/22 16:00
Matrix: Water
Date Received: 05/27/22 14:05

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/31/22 20:34	06/07/22 14:33	1
Arsenic	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 14:33	1
Barium	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 14:33	1
Cadmium	<0.00010		0.00010	mg/L		05/31/22 20:34	06/07/22 14:33	1
Chromium	<0.0010		0.0010	mg/L		05/31/22 20:34	06/07/22 14:33	1
Cobalt	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 14:33	1
Lead	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 14:33	1
Molybdenum	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 14:33	1
Selenium	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:05	2
Thallium	<0.00020	D1	0.00020	mg/L		05/31/22 20:34	06/13/22 10:01	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020	mg/L		05/31/22 15:50	05/31/22 22:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20	mg/L			05/27/22 17:04	1
pH	**5.57**	**H5**	1.68	SU			06/07/22 11:19	1
Temperature	**13.7**	**H5**	0.100	Degrees C			06/07/22 11:19	1

Client Sample ID: FC-CCR-MW49A-0522

Lab Sample ID: 550-184771-3
Date Collected: 05/26/22 11:13
Matrix: Water
Date Received: 05/27/22 14:05

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**460**	**D2**	400	mg/L			05/28/22 00:11	200
Fluoride	<0.80	D1	0.80	mg/L			05/27/22 23:52	2
Sulfate	**14000**	**D2**	400	mg/L			05/28/22 00:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010	mg/L		05/31/22 16:29	06/01/22 18:05	1
Lithium	**0.82**		0.020	mg/L		06/12/22 12:41	06/14/22 21:32	1
Boron	**4.5**		0.050	mg/L		05/31/22 16:29	06/01/22 18:05	1
Calcium	**420**		2.0	mg/L		05/31/22 16:29	06/01/22 18:05	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/31/22 20:34	06/07/22 14:35	1
Arsenic	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 14:35	1
Barium	**0.023**		0.00050	mg/L		05/31/22 20:34	06/07/22 14:35	1
Cadmium	**0.00030**		0.00010	mg/L		05/31/22 20:34	06/07/22 14:35	1
Chromium	**0.0040**		0.0010	mg/L		05/31/22 20:34	06/07/22 14:35	1
Cobalt	**0.0016**		0.00050	mg/L		05/31/22 20:34	06/07/22 14:35	1
Lead	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 14:35	1
Molybdenum	**0.037**		0.00050	mg/L		05/31/22 20:34	06/07/22 14:35	1
Selenium	<0.0010	D1	0.0010	mg/L		05/31/22 20:34	06/09/22 18:07	2
Thallium	**0.0016**	**D1**	0.00020	mg/L		05/31/22 20:34	06/13/22 10:03	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184771-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW49A-0522

Lab Sample ID: 550-184771-3

Date Collected: 05/26/22 11:13
Date Received: 05/27/22 14:05

Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020		mg/L		05/31/22 15:50	05/31/22 22:22	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	16000	D2	1000		mg/L			05/27/22 17:04	1
pH	7.53	H5	1.68		SU			06/07/22 11:19	1
Temperature	14.1	H5	0.100		Degrees C			06/07/22 11:19	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-275464/2
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/27/22 10:41	1
Fluoride	<0.40		0.40		mg/L			05/27/22 10:41	1
Sulfate	<2.0		2.0		mg/L			05/27/22 10:41	1

Lab Sample ID: LCS 550-275464/5
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	21.0		mg/L		105	90 - 110		
Fluoride			4.00	4.04		mg/L		101	90 - 110		
Sulfate			20.0	20.5		mg/L		103	90 - 110		

Lab Sample ID: LCSD 550-275464/6
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.04		mg/L		101	90 - 110	0	20
Sulfate			20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-184742-A-1 MS ^5
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	34	D2	100	144	D2	mg/L		110	80 - 120		
Fluoride	2.3	D1	20.0	22.7	D1	mg/L		102	80 - 120		
Sulfate	370	D2	100	465	D2	mg/L		95	80 - 120		

Lab Sample ID: 550-184742-A-1 MSD ^5
Matrix: Water
Analysis Batch: 275464

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	34	D2	100	144	D2	mg/L		110	80 - 120	0	20
Fluoride	2.3	D1	20.0	22.8	D1	mg/L		103	80 - 120	1	20
Sulfate	370	D2	100	464	D2	mg/L		94	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-275622/1-A
Matrix: Water
Analysis Batch: 275780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275622

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	V1	0.0010		mg/L		05/31/22 16:29	06/01/22 17:26	1
Boron	<0.050		0.050		mg/L		05/31/22 16:29	06/01/22 17:26	1
Calcium	<2.0		2.0		mg/L		05/31/22 16:29	06/01/22 17:26	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: LCS 550-275622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.958	V1	mg/L		96	85 - 115
Boron	1.00	0.959		mg/L		96	85 - 115
Calcium	21.0	19.7		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-275622/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.972	V1	mg/L		97	85 - 115	1	20
Boron	1.00	0.959		mg/L		96	85 - 115	0	20
Calcium	21.0	19.8		mg/L		94	85 - 115	1	20

Lab Sample ID: 550-184324-C-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	<0.0010	V1	1.00	0.996	V1	mg/L		100	70 - 130
Boron	<0.050		1.00	0.994		mg/L		97	70 - 130
Calcium	72		21.0	89.6		mg/L		82	70 - 130

Lab Sample ID: 550-184324-C-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275780 — **Prep Batch: 275622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	<0.0010	V1	1.00	1.04	V1	mg/L		104	70 - 130	4	20
Boron	<0.050		1.00	1.01		mg/L		98	70 - 130	1	20
Calcium	72		21.0	95.8		mg/L		112	70 - 130	7	20

Lab Sample ID: MB 280-577755/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.020		0.020	mg/L		06/12/22 12:41	06/14/22 20:15	1

Lab Sample ID: LCS 280-577755/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.967		mg/L		97	90 - 112

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 280-163042-B-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	<0.020		1.00	0.982		mg/L		98	70 - 130

Lab Sample ID: 280-163042-B-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 578102 — **Prep Batch: 577755**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	<0.020		1.00	0.999		mg/L		100	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-275639/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0010		0.0010	mg/L		05/31/22 20:34	06/07/22 12:56	1
Arsenic	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 12:56	1
Barium	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 12:56	1
Cadmium	<0.00010		0.00010	mg/L		05/31/22 20:34	06/07/22 12:56	1
Chromium	<0.0010		0.0010	mg/L		05/31/22 20:34	06/07/22 12:56	1
Cobalt	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 12:56	1
Lead	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 12:56	1
Molybdenum	<0.00050		0.00050	mg/L		05/31/22 20:34	06/07/22 12:56	1

Lab Sample ID: MB 550-275639/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.00050		0.00050	mg/L		05/31/22 20:34	06/09/22 17:34	1

Lab Sample ID: MB 550-275639/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.00010		0.00010	mg/L		05/31/22 20:34	06/13/22 09:34	1

Lab Sample ID: LCS 550-275639/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0880		mg/L		88	85 - 115
Arsenic	0.100	0.0915		mg/L		91	85 - 115
Barium	0.100	0.100		mg/L		100	85 - 115
Cadmium	0.100	0.0950		mg/L		95	85 - 115
Chromium	0.100	0.0905		mg/L		90	85 - 115
Cobalt	0.100	0.0925		mg/L		92	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-275639/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	0.100	0.0893		mg/L		89	85 - 115
Molybdenum	0.100	0.0943		mg/L		94	85 - 115

Lab Sample ID: LCS 550-275639/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.0965		mg/L		96	85 - 115

Lab Sample ID: LCS 550-275639/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.100	0.0958		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-275639/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0894		mg/L		89	85 - 115	2	20
Arsenic	0.100	0.0915		mg/L		91	85 - 115	0	20
Barium	0.100	0.101		mg/L		101	85 - 115	1	20
Cadmium	0.100	0.0981		mg/L		98	85 - 115	3	20
Chromium	0.100	0.0902		mg/L		90	85 - 115	0	20
Cobalt	0.100	0.0912		mg/L		91	85 - 115	1	20
Lead	0.100	0.0944		mg/L		94	85 - 115	6	20
Molybdenum	0.100	0.0973		mg/L		97	85 - 115	3	20

Lab Sample ID: LCSD 550-275639/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.0962		mg/L		96	85 - 115	0	20

Lab Sample ID: LCSD 550-275639/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.100	0.0954		mg/L		95	85 - 115	0	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<0.0010		0.100	0.0912		mg/L		91	70 - 130
Arsenic	0.0012		0.100	0.0964		mg/L		95	70 - 130
Barium	0.0068		0.100	0.108		mg/L		101	70 - 130
Cadmium	<0.00010		0.100	0.0970		mg/L		97	70 - 130
Chromium	0.0017		0.100	0.0913		mg/L		90	70 - 130
Cobalt	<0.00050		0.100	0.0924		mg/L		92	70 - 130
Lead	<0.00050		0.100	0.0902		mg/L		90	70 - 130
Molybdenum	0.0045		0.100	0.103		mg/L		98	70 - 130

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.00095		0.100	0.102		mg/L		101	70 - 130

Lab Sample ID: 550-184761-AF-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	0.00035		0.100	0.101		mg/L		101	70 - 130

Lab Sample ID: 550-184761-AF-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276217 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<0.0010		0.100	0.0939		mg/L		94	70 - 130	3	20
Arsenic	0.0012		0.100	0.0992		mg/L		98	70 - 130	3	20
Barium	0.0068		0.100	0.113		mg/L		106	70 - 130	5	20
Cadmium	<0.00010		0.100	0.100		mg/L		100	70 - 130	3	20
Chromium	0.0017		0.100	0.0943		mg/L		93	70 - 130	3	20
Cobalt	<0.00050		0.100	0.0946		mg/L		95	70 - 130	2	20
Lead	<0.00050		0.100	0.0958		mg/L		96	70 - 130	6	20
Molybdenum	0.0045		0.100	0.105		mg/L		101	70 - 130	2	20

Lab Sample ID: 550-184761-AF-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276679 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.00095		0.100	0.0979		mg/L		97	70 - 130	4	20

Lab Sample ID: 550-184761-AF-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276709 — **Prep Batch: 275639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	0.00035		0.100	0.104		mg/L		103	70 - 130	2	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184771-1
SDG: APS Four Corners Power Plant (Multiunit)

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-275611/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275642 — **Prep Batch: 275611**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	<0.00020		0.00020		mg/L		05/31/22 15:50	05/31/22 21:46	1

Lab Sample ID: LCS 550-275611/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275642 — **Prep Batch: 275611**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg			0.00500	0.00464		mg/L		93	85 - 115		

Lab Sample ID: LCSD 550-275611/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275642 — **Prep Batch: 275611**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg			0.00500	0.00457		mg/L		91	85 - 115	2	20

Lab Sample ID: 550-184727-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275642 — **Prep Batch: 275611**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Hg	<0.00020		0.00500	0.00455		mg/L		91	70 - 130		

Lab Sample ID: 550-184727-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275642 — **Prep Batch: 275611**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hg	<0.00020		0.00500	0.00468		mg/L		94	70 - 130	3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-275452/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<20		20		mg/L			05/27/22 17:04	1

Lab Sample ID: LCS 550-275452/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	986		mg/L		99	90 - 110		

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-275452/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	976		mg/L		98	90 - 110	1	10

Lab Sample ID: 550-184702-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275452

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1100			1070		mg/L				0.4	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-276198/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276198

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.930		SU		99.0	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-276198/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276198

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.930		SU		99.0	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-276198/29 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276198

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	6.930		SU		99.0	98.5 - 101.5		

Lab Sample ID: 550-184652-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276198

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.98	H5		8.010	H5	SU				0.4	5
Temperature	10.5	H5		10.70	H5	Degrees C				2	

Lab Sample ID: 550-184771-3 DU — **Client Sample ID: FC-CCR-MW49A-0522**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276198

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.53	H5		7.540	H5	SU				0.1	5
Temperature	14.1	H5		13.40	H5	Degrees C				5	

HPLC/IC

Analysis Batch: 275464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	300.0	
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	300.0	
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	300.0	
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	300.0	
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	300.0	
MB 550-275464/2	Method Blank	Total/NA	Water	300.0	
LCS 550-275464/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-275464/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-184742-A-1 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-184742-A-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 275611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	245.1	
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	245.1	
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	245.1	
MB 550-275611/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-275611/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-275611/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-184727-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-184727-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Prep Batch: 275622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	200.7	
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	200.7	
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	200.7	
MB 550-275622/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-275622/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-275622/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-184324-C-1-C MS	Matrix Spike	Total/NA	Water	200.7	
550-184324-C-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 275639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	200.8	
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	200.8	
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	200.8	
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8	
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 275642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	245.1	275611
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	245.1	275611
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	245.1	275611

Metals (Continued)

Analysis Batch: 275642 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275611/1-A	Method Blank	Total/NA	Water	245.1	275611
LCS 550-275611/2-A	Lab Control Sample	Total/NA	Water	245.1	275611
LCSD 550-275611/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	275611
550-184727-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	275611
550-184727-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	275611

Analysis Batch: 275780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	200.7 Rev 4.4	275622
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	200.7 Rev 4.4	275622
MB 550-275622/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	275622
LCS 550-275622/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	275622
LCSD 550-275622/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	275622
550-184324-C-1-C MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	275622
550-184324-C-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	275622

Analysis Batch: 276217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8 LL	275639
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275639
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	200.8 LL	275639
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	200.8 LL	275639
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	200.8 LL	275639
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	200.8 LL	275639
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	200.8 LL	275639
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8 LL	275639
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275639
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275639

Analysis Batch: 276709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	200.8 LL	275639
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	200.8 LL	275639
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	200.8 LL	275639
MB 550-275639/1-A	Method Blank	Total/NA	Water	200.8 LL	275639
LCS 550-275639/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	275639
LCSD 550-275639/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	275639
550-184761-AF-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	275639

Metals (Continued)

Analysis Batch: 276709 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184761-AF-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	275639

Prep Batch: 577755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	200.7	
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	200.7	
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	200.7	
MB 280-577755/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-577755/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-163042-B-1-C MS	Matrix Spike	Total/NA	Water	200.7	
280-163042-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 578102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	200.7 Rev 4.4	577755
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	200.7 Rev 4.4	577755
MB 280-577755/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	577755
LCS 280-577755/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	577755
280-163042-B-1-C MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	577755
280-163042-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	577755

General Chemistry

Analysis Batch: 275452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	SM 2540C	
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	SM 2540C	
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	SM 2540C	
MB 550-275452/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-275452/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-275452/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-184702-E-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 276198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-184771-1	FC-CCR-MW07-0522	Total/NA	Water	SM 4500 H+ B	
550-184771-2	FC-CCR-EB01-0522	Total/NA	Water	SM 4500 H+ B	
550-184771-3	FC-CCR-MW49A-0522	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-276198/29	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-184652-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-184771-3 DU	FC-CCR-MW49A-0522	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184771-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW07-0522

Lab Sample ID: 550-184771-1
Matrix: Water
Date Collected: 05/26/22 13:30
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 21:25	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/27/22 22:39	AS1	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 17:59	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 21:24	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		1	276288	06/07/22 14:31	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:03	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276709	06/13/22 09:59	ARE	TAL PHX
Total/NA	Prep	245.1			275611	05/31/22 15:50	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275642	05/31/22 22:14	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Client Sample ID: FC-CCR-EB01-0522

Lab Sample ID: 550-184771-2
Matrix: Water
Date Collected: 05/26/22 16:00
Date Received: 05/27/22 14:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	275464	05/28/22 00:29	AS1	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:02	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 21:28	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		1	276288	06/07/22 14:33	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:05	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276709	06/13/22 10:01	ARE	TAL PHX
Total/NA	Prep	245.1			275611	05/31/22 15:50	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275642	05/31/22 22:20	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184771-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW49A-0522

Date Collected: 05/26/22 11:13
Date Received: 05/27/22 14:05

Lab Sample ID: 550-184771-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	275464	05/27/22 23:52	AS1	TAL PHX
Total/NA	Analysis	300.0		200	275464	05/28/22 00:11	AS1	TAL PHX
Total/NA	Prep	200.7			275622	05/31/22 16:29	GLW	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	275780	06/01/22 18:05	MGM	TAL PHX
Total/NA	Prep	200.7			577755	06/12/22 12:41	PFM	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	578102	06/14/22 21:32	LMT	TAL DEN
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		1	276288	06/07/22 14:35	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276679	06/09/22 18:07	ARE	TAL PHX
Total/NA	Prep	200.8			275639	05/31/22 20:34	GLW	TAL PHX
Total/NA	Analysis	200.8 LL		2	276709	06/13/22 10:03	ARE	TAL PHX
Total/NA	Prep	245.1			275611	05/31/22 15:50	SRR	TAL PHX
Total/NA	Analysis	245.1		1	275642	05/31/22 22:22	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	275452		CHS	TAL PHX
					(Start)	05/27/22 17:04		
					(End)	05/31/22 13:10		
Total/NA	Analysis	SM 4500 H+ B		1	276198	06/07/22 11:19	CXK	TAL PHX

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184771-1
SDG: APS Four Corners Power Plant (Multiunit)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-184771-1
SDG: APS Four Corners Power Plant (Multiunit)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

184771

550-184771 Chain of Custody

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Multiunit)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	Sample Specific Notes:
FC-CCR-MW07-0522 -1	5/26/2022	13:30	G	W	2	N		X		X			X		X	X	X		Low Flow
FC-CCR-EB01-0522 -2	5/26/2022	16:00	G	W	2	N		X		X			X		X	X	X		Equipment Blank
FC-CCR-MW49A-0522 -3	5/26/2022	11:13	G	W	2	N		X		X			X		X	X	X		Low Flow
								1	4	4	4	4	4	4	4	1	1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.2°C ICE COD

Custody Seals Intact: ☑ Yes ☐ No	Custody Seal No.: 5/27/22		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____		
Relinquished by: [signature]	Company: Wood	Date/Time: 14:05	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: EEM DW	Date/Time: 5-27-22 1405

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-34121.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-184771-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 6/13/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
FC-CCR-MW04-0522 (550-184771-1)	5/26/22	13:30 Arizona		Water			X	1	AZ Sample
FC-CCR-EB01-0522 (550-184771-2)	5/26/22	16:00 Arizona		Water			X	1	AZ Sample
FC-CCR-MW49A-0522 (550-184771-3)	5/26/22	11:13 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*		
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:		
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:	
Relinquished by: [signature] 05-27-22	Date/Time: 16:15	Company: EETSW	Received by: Fedex	Date/Time: Company
Relinquished by: Fedex	Date/Time:	Company	Received by: [signature]	Date/Time: 5/28/22 1045 Company: ETA/DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: Company
Custody Seals Intact: ☑ Yes Δ No	Custody Seal No.: 1940822		Cooler Temperature(s) °C and Other Remarks: 1.1 IR12 CF+0.1	

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184771-1
SDG Number: APS Four Corners Power Plant (Multiunit)

Login Number: 184771
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-184771-1
SDG Number: APS Four Corners Power Plant (Multiunit)

Login Number: 184771
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 05/28/22 03:06 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 20, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW62-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/24/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 20, 2022 (Sample Date) 14:20 (Sample Time) (24 hour clock) _____ Owner/Contact Person

_____ Owner/Contact Fax Number _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69242

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW62-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 20, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW63-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 20, 2022 — Sample Date

13:22 — Sample Time (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69243

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW63-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 20, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW64-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 20, 2022 (Sample Date) 12:26 (Sample Time) (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69244

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW64-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 20, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW65-0522	< 0.4	1.1 ± 0.4	1.1 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 20, 2022 — Sample Date

15:06 — Sample Time (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.1 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.1 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69245

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW65-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 24, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-SW1-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 24, 2022 (Sample Date) 15:33 (Sample Time) (24 hour clock)

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: _____

Date Q2 collected: _____

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69246

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-SW1-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 24, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-SW2-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 24, 2022 — Sample Date

16:55 — Sample Time (24 hour clock)

Owner/Contact Person: _____

Owner/Contact Fax Number: _____

Owner/Contact Phone Number: _____

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69247

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-SW2-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 24, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-SW3-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 24, 2022 (Sample Date) 17:10 (Sample Time) (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69248

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-SW3-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 24, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-FD08-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 24, 2022 (Sample Date) 15:33 (Sample Time) (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69249

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-FD08-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 26, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-EB01-0522	< 0.4	1.2 ± 0.6	1.2 ± 0.6

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 26, 2022 — Sample Date

16:00 — Sample Time (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.2 ± 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.2 ± 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69250

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-EB01-0522

Authorized Signature: Alex Hum

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (CWTP)

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225
Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-MW62-0522	5/20/2022	14:20	GW						X	X	X						69242
FC-CCR-MW63-0522	5/20/2022	13:22	GW						X	X	X						69243
FC-CCR-MW64-0522	5/20/2022	12:26	GW						X	X	X						69244
FC-CCR-MW65-0522	5/20/2022	15:06	GW						X	X	X						69245
FC-CCR-SW1-0522	5/24/2022	15:33	GW						X	X	X						69246
FC-CCR-SW2-0522	5/24/2022	16:55	GW						X	X	X						69247
FC-CCR-SW3-0522	5/24/2022	17:10	GW						X	X	X						69248
FC-CCR-FD08-0522	5/24/2022	15:33	GW						X	X	X						69249
FC-CCR-EB01-0522	5/26/2022	16:00	OTHER						X	X	X						69250

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By: [signature]	Company: WSOL	Date/time: 5/27/22 13:30	Received By: Pat Flannery		Company: RSE	Date/time: 5/27/22 1:30
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 20, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW66-0522	1.0 ± 0.2	< 0.7	1.0 ± 0.2

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, PhD.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 20, 2022 (Sample Date) 16:48 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.0 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	1.0 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69227

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW66-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 21, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW67-0522	0.7 ± 0.2	1.1 ± 0.3	1.8 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 21, 2022 (Sample Date) 11:45 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.8 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.7 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.1 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69228

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW67-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 21, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW68-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 21, 2022 (Sample Date) 10:45 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69229

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW68-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 21, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW69-0522	< 0.4	0.8 ± 0.3	0.8 ± 0.3

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Robert Metzger, Ph.D.,C.H.P. 6/23/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 21, 2022 — Sample Date; 9:48 (24 hour clock) — Sample Time; _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	0.8 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	0.8 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69230

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW69-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 20, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW70-0522	0.6 ± 0.2	1.6 ± 0.4	2.2 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Robert Metzger 6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 20, 2022 (Sample Date) 11:30 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ Owner/Contact Fax Number _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	2.2 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.6 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69231

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW70-0522

Authorized Signature: Robert L Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 21, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW71-0522	0.4 ± 0.2	0.8 ± 0.3	1.2 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 21, 2022 (Sample Date) 15:26 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.2 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	0.8 ± 0.3		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69232

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW71-0522

Authorized Signature: Robert L Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 22, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW72-0522	< 0.4	1.2 ± 0.3	1.2 ± 0.3

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 22, 2022 (Sample Date) 9:38 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ Owner/Contact Fax Number _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.2 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.2 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69233

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW72-0522

Authorized Signature: _____

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 22, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW73-0522	< 0.4	1.4 ± 0.4	1.4 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Robert Metzger, Ph.D.,C.H.P. 6/23/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 22, 2022 (Sample Date) 10:32 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.4 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.4 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69234

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW73-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 21, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW83-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 21, 2022 (Sample Date) 13:55 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ Owner/Contact Fax Number _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69235

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW83-0522

Authorized Signature: Robert L Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 21, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW84-0522	0.5 ± 0.2	< 0.7	0.5 ± 0.2

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 21, 2022 (Sample Date) 12:36 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	0.5 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.5 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69236

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW84-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 20, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW86-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 20, 2022 (Sample Date) 16:00 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69237

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW86-0522

Authorized Signature: Robert L Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 21, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-FD01-0522	0.9 ± 0.2	< 0.7	0.9 ± 0.2

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 21, 2022 (Sample Date) 22:00 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	0.9 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.9 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69238

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-FD01-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 20, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-FD02-0522	< 0.4	< 0.7	< 0.7

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 20, 2022 (Sample Date) 23:00 (Sample Time) (24 hour clock)

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69239

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-FD02-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 21, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW84-0522MS	0.6 ± 0.2	< 0.7	0.6 ± 0.2

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 21, 2022 (Sample Date) 12:36 (Sample Time) (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.7		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69240

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW84-0522MS

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 21, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW84-0522-SD	0.6 ± 0.2	1.0 ± 0.3	1.6 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 21, 2022 — Sample Date

12:36 — Sample Time (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.6 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.0 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69241

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW84-0522-SD

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (URS)

Radiation Safety Engineering, Inc.

3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-MW66-0522	5/20/2022	16:48	GW						X	X	X						69227
FC-CCR-MW67-0522	5/21/2022	11:45	GW						X	X	X						69228
FC-CCR-MW68-0522	5/21/2022	10:45	GW						X	X	X						69229
FC-CCR-MW69-0522	5/21/2022	9:48	GW						X	X	X						69230
FC-CCR-MW70-0522	5/20/2022	11:30	GW						X	X	X						69231
FC-CCR-MW71-0522	5/21/2022	15:26	GW						X	X	X						69232
FC-CCR-MW72-0522	5/22/2022	9:38	GW						X	X	X						69233
FC-CCR-MW73-0522	5/22/2022	10:32	GW						X	X	X						69234
FC-CCR-MW83-0522	5/21/2022	13:55	GW						X	X	X						69235
FC-CCR-MW84-0522	5/21/2022	12:36	GW						X	X	X						69236

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By: Allan Ray	Company: WSSL	Date/time: 5/27/22 13:30	Received By: Pat Flannery		Company: RSE	Date/time: 5/27/22 1:30
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (URS)

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225
Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-MW86-0522	5/20/2022	16:00	GW						X	X	X						69237
FC-CCR-FD01-0522	5/21/2022	22:00	GW						X	X	X						69238
FC-CCR-FD02-0522	5/20/2022	23:00	GW						X	X	X						69239
FC-CCR-MW84-0522-MS	5/21/2022	12:36	GW						X	X	X						69240
FC-CCR-MW84-0522-SD	5/21/2022	12:36	GW						X	X	X						69241

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinguished By:	Company: WJOI	Date/time: 5/27/22 13:00	Received By: Pat Flannery	Company: TRSE	Date/time: 5/27/22 1:30
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 25, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-DMX03-0522	0.4 ± 0.2	1.0 ± 0.3	1.4 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 25, 2022 — Sample Date; 11:25 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.4 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.0 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69258

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-DMX03-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 25, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-DMX04-0522	< 0.3	< 0.6	< 0.6

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 25, 2022 (Sample Date) 13:50 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69259

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-DMX04-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 24, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-DMX06-0522	< 0.3	< 0.6	< 0.6

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 24, 2022 (Sample Date) 13:26 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69260

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-DMX06-0522

Authorized Signature: Robert L Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 25, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW06-0522	< 0.3	< 0.6	< 0.6

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 25, 2022 (Sample Date) 15:30 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69261

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW06-0522

Authorized Signature: Robert L Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 24, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW15-0522	< 0.3	< 0.6	< 0.6

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 24, 2022 (Sample Date) 14:16 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69262

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW15-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 26, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW16-0522	1.0 ± 0.2	2.4 ± 0.3	3.4 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 26, 2022 (Sample Date) 14:15 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	3.4 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	1.0 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	2.4 ± 0.3		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69263

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW16-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 25, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW17R-0522	0.7 ± 0.2	1.3 ± 0.3	2.0 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 25, 2022 16:25 (24 hour clock)

Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring Date Q1 collected: _____

☐ Quarterly Date Q2 collected: _____

☐ Composite of four quarterly samples Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	2.0 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.7 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.3 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69264

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW17R-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 25, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW38R-0522	< 0.3	< 0.6	< 0.6

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Robert Metzger, Ph.D.,C.H.P. 6/23/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 25, 2022 (Sample Date) 17:25 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69265

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW38R-0522

Authorized Signature: Robert L Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 24, 2022
Sample Received: May 27, 2022
Analysis Completed: June 23, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW57-0522	< 0.3	1.5 ± 0.3	1.5 ± 0.3

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

6/23/2022

Robert Metzger, Ph.D.,C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 24, 2022 (Sample Date) 10:38 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.5 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.5 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69266

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW57-0522

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (Other)

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225
Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-DMX03-0522	5/25/2022	11:25	GW						X	X	X						69258
FC-CCR-DMX04-0522	5/25/2022	13:50	GW						X	X	X						69259
FC-CCR-DMX06-0522	5/24/2022	13:26	GW						X	X	X						69260
FC-CCR-MW06-0522	5/25/2022	15:30	GW						X	X	X						69261
FC-CCR-MW15-0522	5/24/2022	14:16	GW						X	X	X						69262
FC-CCR-MW16-0522	5/26/2022	14:15	GW						X	X	X						69263
FC-CCR-MW17R-0522	5/25/2022	16:25	GW						X	X	X						69264
FC-CCR-MW38R-0522	5/25/2022	17:25	GW						X	X	X						69265
FC-CCR-MW57-0522	5/24/2022	10:38	GW						X	X	X						69266

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By: [signature]	Company: WSL	Date/time: 5/27/22 13:30	Received By: Pat Flannery	Company: RSE	Date/time: 5/27/22 1:30
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 26, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW07-0522	< 0.4	0.7 ± 0.3	0.7 ± 0.3

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 26, 2022 (Sample Date) 13:30 (Sample Time) (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	0.7 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	0.7 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69251

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW07-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 24, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW08-0522	< 0.4	1.1 ± 0.3	1.1 ± 0.3

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 24, 2022 (Sample Date) 9:28 (Sample Time) (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.1 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.1 ± 0.3	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69252

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW08-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 26, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW49A-0522	< 0.4	0.6 ± 0.3	0.6 ± 0.3

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 26, 2022 (Sample Date) 11:13 (Sample Time) (24 hour clock)

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	0.6 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	0.6 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69253

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW49A-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 22, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW61-0522	0.4 ± 0.2	< 0.6	0.4 ± 0.2

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 22, 2022 (Sample Date) 14:02 (Sample Time) (24 hour clock)

_____ Owner/Contact Person

_____ Owner/Contact Fax Number

_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69254

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW61-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 24, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW87-0522	0.8 ± 0.2	3.1 ± 0.4	3.9 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

May 24, 2022 (Sample Date) 11:55 (Sample Time) (24 hour clock)

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	3.9 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.8 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	3.1 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69255

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW87-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 24, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-FD04-0522	0.6 ± 0.2	3.3 ± 0.4	3.9 ± 0.4

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 24, 2022 (Sample Date) 17:00 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	3.9 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	3.3 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69256

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-FD04-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: May 22, 2022
Sample Received: May 27, 2022
Analysis Completed: June 24, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW75-0522	< 0.3	1.4 ± 0.3	1.4 ± 0.3

Date of Analysis	6/3/2022	6/3/2022	6/3/2022

Alex Myers, Ph.D. 6/24/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

May 22, 2022 (Sample Date) 15:06 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/3/2022	1.4 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/3/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/3/2022	1.4 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE69257

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW75-0522

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (Multiunit)

Radiation Safety Engineering, Inc.

3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-MW07-0522	5/26/2022	13:30	GW						X	X	X						69251
FC-CCR-MW08-0522	5/24/2022	9:28	GW						X	X	X						69252
FC-CCR-MW49A-0522	5/26/2022	11:13	GW						X	X	X						69253
FC-CCR-MW61-0522	5/22/2022	14:02	GW						X	X	X						69254
FC-CCR-MW87-0522	5/24/2022	11:55	GW						X	X	X						69255
FC-CCR-FD04-0522	5/24/2022	17:00	GW						X	X	X						69256
FC-CCR-MW75-0522	5/22/2022	15:06	GW						X	X	X						69257

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By: [signature]	Company: WSSL	Date/time: 5/27/22 13:30	Received By: Pat Flannery		Company: RSE	Date/time: 5/27/22 1:30
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-188833-1
Laboratory SDG: APS Four Coners Power Plant (CWTP)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
8/19/2022 12:09:33 PM

Danielle Roberts, Senior Project Manager
(657)210-6355
Danielle.Roberts@et.eurofinsus.com

LINKS

Review your project results through my EOL

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Arizona Public Service Company
Job ID: 550-188833-1
Project/Site: CCR Groundwater Monitoring
SDG: APS Four Coners Power Plant (CWTP)

Qualifiers

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-188833-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-188833-1

Comments
No additional comments.

Receipt
The samples were received on 8/15/2022 12:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.3º C, 3.4º C and 4.1º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-188833-1
SDG: APS Four Coners Power Plant (CWTP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-188833-1	FC-CCR-MW63-0822	Water	08/14/22 09:42	08/15/22 12:35
550-188833-2	FC-CCR-MW65-0822	Water	08/14/22 09:06	08/15/22 12:35
550-188833-3	FC-CCR-MW71-0822	Water	08/14/22 11:43	08/15/22 12:35
550-188833-4	FC-CCR-MW72-0822	Water	08/13/22 15:47	08/15/22 12:35
550-188833-5	FC-CCR-MW73-0822	Water	08/13/22 14:46	08/15/22 12:35
550-188833-6	FC-CCR-SW1-0822	Water	08/14/22 12:11	08/15/22 12:35
550-188833-7	FC-CCR-SW2-0822	Water	08/14/22 10:11	08/15/22 12:35
550-188833-8	FC-CCR-SW3-0822	Water	08/14/22 10:36	08/15/22 12:35
550-188833-9	FC-CCR-FD02-0822	Water	08/14/22 10:11	08/15/22 12:35

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-188833-1
SDG: APS Four Coners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW63-0822 — Lab Sample ID: 550-188833-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
pH	7.1	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.4	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-0822 — Lab Sample ID: 550-188833-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	0.61		0.050		mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: FC-CCR-MW71-0822 — Lab Sample ID: 550-188833-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	0.44		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
pH	7.0	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.5	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-0822 — Lab Sample ID: 550-188833-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	0.14		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
pH	7.0	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.9	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW73-0822 — Lab Sample ID: 550-188833-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	1.6		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
pH	6.9	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.2	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW1-0822 — Lab Sample ID: 550-188833-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	0.31		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
pH	8.7	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW2-0822 — Lab Sample ID: 550-188833-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	0.31		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
pH	8.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.8	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW3-0822 — Lab Sample ID: 550-188833-8

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	0.31		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
pH	8.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.2	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD02-0822 — Lab Sample ID: 550-188833-9

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	0.33		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
pH	8.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-188833-1
SDG: APS Four Coners Power Plant (CWTP)

Client Sample ID: FC-CCR-FD02-0822 (Continued) — Lab Sample ID: 550-188833-9

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Temperature	14.2	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-188833-1
SDG: APS Four Coners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW63-0822
Lab Sample ID: 550-188833-1
Date Collected: 08/14/22 09:42
Matrix: Water
Date Received: 08/15/22 12:35

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
pH	7.1	H5	1.7		SU			08/16/22 13:13	1
Temperature	13.4	H5 T5	0.1		Degrees C			08/16/22 13:13	1

Client Sample ID: FC-CCR-MW65-0822
Lab Sample ID: 550-188833-2
Date Collected: 08/14/22 09:06
Matrix: Water
Date Received: 08/15/22 12:35

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.61		0.050		mg/L		08/16/22 04:30	08/17/22 04:14	1

Client Sample ID: FC-CCR-MW71-0822
Lab Sample ID: 550-188833-3
Date Collected: 08/14/22 11:43
Matrix: Water
Date Received: 08/15/22 12:35

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.44		0.050		mg/L		08/16/22 04:30	08/17/22 04:17	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	H5	1.7		SU			08/16/22 13:13	1
Temperature	13.5	H5 T5	0.1		Degrees C			08/16/22 13:13	1

Client Sample ID: FC-CCR-MW72-0822
Lab Sample ID: 550-188833-4
Date Collected: 08/13/22 15:47
Matrix: Water
Date Received: 08/15/22 12:35

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.14		0.050		mg/L		08/16/22 04:30	08/17/22 04:20	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	H5	1.7		SU			08/16/22 13:13	1
Temperature	13.9	H5 T5	0.1		Degrees C			08/16/22 13:13	1

Client Sample ID: FC-CCR-MW73-0822
Lab Sample ID: 550-188833-5
Date Collected: 08/13/22 14:46
Matrix: Water
Date Received: 08/15/22 12:35

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.6		0.050		mg/L		08/16/22 04:30	08/17/22 04:23	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
pH	6.9	H5	1.7		SU			08/16/22 13:13	1
Temperature	13.2	H5 T5	0.1		Degrees C			08/16/22 13:13	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-188833-1
SDG: APS Four Coners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW1-0822

Lab Sample ID: 550-188833-6
Date Collected: 08/14/22 12:11
Matrix: Water
Date Received: 08/15/22 12:35

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.050		mg/L		08/16/22 04:30	08/17/22 04:25	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
pH	8.7	H5	1.7		SU			08/16/22 13:13	1
Temperature	12.7	H5 T5	0.1		Degrees C			08/16/22 13:13	1

Client Sample ID: FC-CCR-SW2-0822

Lab Sample ID: 550-188833-7
Date Collected: 08/14/22 10:11
Matrix: Water
Date Received: 08/15/22 12:35

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.050		mg/L		08/16/22 04:30	08/17/22 04:28	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
pH	8.5	H5	1.7		SU			08/16/22 13:13	1
Temperature	12.8	H5 T5	0.1		Degrees C			08/16/22 13:13	1

Client Sample ID: FC-CCR-SW3-0822

Lab Sample ID: 550-188833-8
Date Collected: 08/14/22 10:36
Matrix: Water
Date Received: 08/15/22 12:35

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.050		mg/L		08/16/22 04:30	08/17/22 04:31	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
pH	8.5	H5	1.7		SU			08/16/22 13:13	1
Temperature	13.2	H5 T5	0.1		Degrees C			08/16/22 13:13	1

Client Sample ID: FC-CCR-FD02-0822

Lab Sample ID: 550-188833-9
Date Collected: 08/14/22 10:11
Matrix: Water
Date Received: 08/15/22 12:35

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.33		0.050		mg/L		08/16/22 04:30	08/17/22 04:34	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
pH	8.5	H5	1.7		SU			08/16/22 13:13	1
Temperature	14.2	H5 T5	0.1		Degrees C			08/16/22 13:13	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-281651/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281788 — **Prep Batch: 281651**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		08/16/22 04:30	08/17/22 03:58	1

Lab Sample ID: LCS 550-281651/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281788 — **Prep Batch: 281651**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron			1.00	0.986		mg/L		99	85 - 115		

Lab Sample ID: LCSD 550-281651/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281788 — **Prep Batch: 281651**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron			1.00	1.00		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-188833-2 MS — **Client Sample ID: FC-CCR-MW65-0822**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281788 — **Prep Batch: 281651**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron	0.61		1.00	1.60		mg/L		100	70 - 130		

Lab Sample ID: 550-188833-2 MSD — **Client Sample ID: FC-CCR-MW65-0822**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281788 — **Prep Batch: 281651**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.61		1.00	1.58		mg/L		98	70 - 130	1	20

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-281706/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281706

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-281706/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 281706

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		100.1	98.5 - 101.5		

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-281706/25
Matrix: Water
Analysis Batch: 281706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		100.1	98.5 - 101.5		

Lab Sample ID: 550-188833-1 DU
Matrix: Water
Analysis Batch: 281706

Client Sample ID: FC-CCR-MW63-0822
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.1	H5		7.1	H5	SU				0.4	5
Temperature	13.4	H5 T5		13.1	H5	Degrees C				2	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-188833-1
SDG: APS Four Coners Power Plant (CWTP)

Metals

Prep Batch: 281651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-188833-2	FC-CCR-MW65-0822	Total/NA	Water	200.7	
550-188833-3	FC-CCR-MW71-0822	Total/NA	Water	200.7	
550-188833-4	FC-CCR-MW72-0822	Total/NA	Water	200.7	
550-188833-5	FC-CCR-MW73-0822	Total/NA	Water	200.7	
550-188833-6	FC-CCR-SW1-0822	Total/NA	Water	200.7	
550-188833-7	FC-CCR-SW2-0822	Total/NA	Water	200.7	
550-188833-8	FC-CCR-SW3-0822	Total/NA	Water	200.7	
550-188833-9	FC-CCR-FD02-0822	Total/NA	Water	200.7	
MB 550-281651/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-281651/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-281651/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-188833-2 MS	FC-CCR-MW65-0822	Total/NA	Water	200.7	
550-188833-2 MSD	FC-CCR-MW65-0822	Total/NA	Water	200.7	

Analysis Batch: 281788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-188833-2	FC-CCR-MW65-0822	Total/NA	Water	200.7 Rev 4.4	281651
550-188833-3	FC-CCR-MW71-0822	Total/NA	Water	200.7 Rev 4.4	281651
550-188833-4	FC-CCR-MW72-0822	Total/NA	Water	200.7 Rev 4.4	281651
550-188833-5	FC-CCR-MW73-0822	Total/NA	Water	200.7 Rev 4.4	281651
550-188833-6	FC-CCR-SW1-0822	Total/NA	Water	200.7 Rev 4.4	281651
550-188833-7	FC-CCR-SW2-0822	Total/NA	Water	200.7 Rev 4.4	281651
550-188833-8	FC-CCR-SW3-0822	Total/NA	Water	200.7 Rev 4.4	281651
550-188833-9	FC-CCR-FD02-0822	Total/NA	Water	200.7 Rev 4.4	281651
MB 550-281651/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	281651
LCS 550-281651/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	281651
LCSD 550-281651/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	281651
550-188833-2 MS	FC-CCR-MW65-0822	Total/NA	Water	200.7 Rev 4.4	281651
550-188833-2 MSD	FC-CCR-MW65-0822	Total/NA	Water	200.7 Rev 4.4	281651

General Chemistry

Analysis Batch: 281706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-188833-1	FC-CCR-MW63-0822	Total/NA	Water	SM 4500 H+ B	
550-188833-3	FC-CCR-MW71-0822	Total/NA	Water	SM 4500 H+ B	
550-188833-4	FC-CCR-MW72-0822	Total/NA	Water	SM 4500 H+ B	
550-188833-5	FC-CCR-MW73-0822	Total/NA	Water	SM 4500 H+ B	
550-188833-6	FC-CCR-SW1-0822	Total/NA	Water	SM 4500 H+ B	
550-188833-7	FC-CCR-SW2-0822	Total/NA	Water	SM 4500 H+ B	
550-188833-8	FC-CCR-SW3-0822	Total/NA	Water	SM 4500 H+ B	
550-188833-9	FC-CCR-FD02-0822	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-281706/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-281706/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-281706/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-188833-1 DU	FC-CCR-MW63-0822	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-188833-1
SDG: APS Four Coners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW63-0822 — Lab Sample ID: 550-188833-1

Date Collected: 08/14/22 09:42 — **Matrix: Water**
Date Received: 08/15/22 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	281706	CXK	EET PHX	08/16/22 13:13

Client Sample ID: FC-CCR-MW65-0822 — Lab Sample ID: 550-188833-2

Date Collected: 08/14/22 09:06 — **Matrix: Water**
Date Received: 08/15/22 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			281651	SGO	EET PHX	08/16/22 04:30
Total/NA	Analysis	200.7 Rev 4.4		1	281788	CHS	EET PHX	08/17/22 04:14

Client Sample ID: FC-CCR-MW71-0822 — Lab Sample ID: 550-188833-3

Date Collected: 08/14/22 11:43 — **Matrix: Water**
Date Received: 08/15/22 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			281651	SGO	EET PHX	08/16/22 04:30
Total/NA	Analysis	200.7 Rev 4.4		1	281788	CHS	EET PHX	08/17/22 04:17
Total/NA	Analysis	SM 4500 H+ B		1	281706	CXK	EET PHX	08/16/22 13:13

Client Sample ID: FC-CCR-MW72-0822 — Lab Sample ID: 550-188833-4

Date Collected: 08/13/22 15:47 — **Matrix: Water**
Date Received: 08/15/22 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			281651	SGO	EET PHX	08/16/22 04:30
Total/NA	Analysis	200.7 Rev 4.4		1	281788	CHS	EET PHX	08/17/22 04:20
Total/NA	Analysis	SM 4500 H+ B		1	281706	CXK	EET PHX	08/16/22 13:13

Client Sample ID: FC-CCR-MW73-0822 — Lab Sample ID: 550-188833-5

Date Collected: 08/13/22 14:46 — **Matrix: Water**
Date Received: 08/15/22 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			281651	SGO	EET PHX	08/16/22 04:30
Total/NA	Analysis	200.7 Rev 4.4		1	281788	CHS	EET PHX	08/17/22 04:23
Total/NA	Analysis	SM 4500 H+ B		1	281706	CXK	EET PHX	08/16/22 13:13

Client Sample ID: FC-CCR-SW1-0822 — Lab Sample ID: 550-188833-6

Date Collected: 08/14/22 12:11 — **Matrix: Water**
Date Received: 08/15/22 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			281651	SGO	EET PHX	08/16/22 04:30
Total/NA	Analysis	200.7 Rev 4.4		1	281788	CHS	EET PHX	08/17/22 04:25
Total/NA	Analysis	SM 4500 H+ B		1	281706	CXK	EET PHX	08/16/22 13:13

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-188833-1
SDG: APS Four Coners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW2-0822 — Lab Sample ID: 550-188833-7

Date Collected: 08/14/22 10:11 — **Matrix: Water**
Date Received: 08/15/22 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			281651	SGO	EET PHX	08/16/22 04:30
Total/NA	Analysis	200.7 Rev 4.4		1	281788	CHS	EET PHX	08/17/22 04:28
Total/NA	Analysis	SM 4500 H+ B		1	281706	CXK	EET PHX	08/16/22 13:13

Client Sample ID: FC-CCR-SW3-0822 — Lab Sample ID: 550-188833-8

Date Collected: 08/14/22 10:36 — **Matrix: Water**
Date Received: 08/15/22 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			281651	SGO	EET PHX	08/16/22 04:30
Total/NA	Analysis	200.7 Rev 4.4		1	281788	CHS	EET PHX	08/17/22 04:31
Total/NA	Analysis	SM 4500 H+ B		1	281706	CXK	EET PHX	08/16/22 13:13

Client Sample ID: FC-CCR-FD02-0822 — Lab Sample ID: 550-188833-9

Date Collected: 08/14/22 10:11 — **Matrix: Water**
Date Received: 08/15/22 12:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			281651	SGO	EET PHX	08/16/22 04:30
Total/NA	Analysis	200.7 Rev 4.4		1	281788	CHS	EET PHX	08/17/22 04:34
Total/NA	Analysis	SM 4500 H+ B		1	281706	CXK	EET PHX	08/16/22 13:13

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Job ID: 550-188833-1
Project/Site: CCR Groundwater Monitoring
SDG: APS Four Coners Power Plant (CWTP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-188833-1
SDG: APS Four Coners Power Plant (CWTP)

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	40CFR136A	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

188833

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Cameron Corley (505-860-3619)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below 5 RUSH DAYS			Walk-in Client:
FAX	☐ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (CWTP)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 200.7 - Totals (B)	SM 4500-HB (pH)													Sample Specific Notes:
FC-CCR-MW63-0822	8/14/2022	9:42	G	W	1	N	N		X					-01								Low Flow
FC-CCR-MW65-0822	8/14/2022	9:06	G	W	1	N	N	X						-02								"
FC-CCR-MW71-0822	8/14/2022	11:43	G	W	2	N	N	X	X					-03								"
FC-CCR-MW72-0822	8/13/2022	15:47	G	W	2	N	N	X	X					-04								"
FC-CCR-MW73-0822	8/13/2022	14:46	G	W	2	N	N	X	X					-05								"
FC-CCR-SW1-0822	8/14/2022	12:11	G	W	2	N	N	X	X					-06								Morgan Lake surface grab sample
FC-CCR-SW2-0822	8/14/2022	10:11	G	W	2	N	N	X	X					-07								CWTP surface grab sample
FC-CCR-SW3-0822	8/14/2022	10:36	G	W	2	N	N	X	X					-08								Cooling Canal surface grab sample
FC-CCR-FD02-0822	8/14/2022	10:11	G	W	2	N	N	X	X					-09								Dupe grab sample
								4	1													

RUSH!

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

3.4/0.3/4.1

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:				
Relinquished by:	Company: WOOD PLC	Date/Time: 08/15/22 12:35	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquishe	ompany:	Date/Time:	Received in Laboratory by:	Company: EETA-PHX	Date/Time: 8/15/22 12:35

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

550-188833 Chain of Custody

CDO

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-188833-1
SDG Number: APS Four Coners Power Plant (CWTP)

Login Number: 188833
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 12/6/2022 4:31:24 PM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Four Corners Power Plant (CWTP)

JOB NUMBER

550-193769-1

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix AZ 85040

See page two for job notes and contact information.

my EOL

Eurofins Phoenix

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-193769-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-193769-1

Comments
No additional comments.

Receipt
The samples were received on 11/16/2022 2:18 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.8º C, 1.1º C and 1.4º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): FC-CCR-MW63-1122 (550-193769-2). The container labels list a sample time of 12:48, while the COC lists a sample time of 12:28.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-193769-1	FC-CCR-MW62-1122	Water	11/13/22 11:57	11/16/22 14:18
550-193769-2	FC-CCR-MW63-1122	Water	11/13/22 12:28	11/16/22 14:18
550-193769-3	FC-CCR-MW64-1122	Water	11/13/22 13:33	11/16/22 14:18
550-193769-4	FC-CCR-MW65-1122	Water	11/13/22 09:37	11/16/22 14:18

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW62-1122 — Lab Sample ID: 550-193769-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	200	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.6	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	4000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.15		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.1		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	610		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.012		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.031		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.011		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0023		0.00050		mg/L	1		200.8 LL	Total/NA
Mercury	0.00037		0.00020		mg/L	1		245.1	Total/NA
Total Dissolved Solids	7100	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.4	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-1122 — Lab Sample ID: 550-193769-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	80	D1	4.0		mg/L	2		300.0	Total/NA
Fluoride	2.1	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	1700	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.061		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.1		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00063		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.023		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0026		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0036		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.00051		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	3000	D2	40		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.2	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-1122 — Lab Sample ID: 550-193769-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	51	D1	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.6	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	230	D2	20		mg/L	10		300.0	Total/NA
Lithium	0.021		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.52		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	70		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.023		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0018		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0052		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00013		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	610		20		mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.6	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW65-1122 — Lab Sample ID: 550-193769-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	59	D1	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.8	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	300	D2	20		mg/L	10		300.0	Total/NA
Lithium	0.050		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.64		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	93		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00059		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.021		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0019		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0089		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	840		20		mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.5	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW62-1122

Lab Sample ID: 550-193769-1
Matrix: Water

Date Collected: 11/13/22 11:57
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200	D2	4.0	mg/L			11/16/22 21:03	2
Fluoride	1.6	D1	0.80	mg/L			11/16/22 21:03	2
Sulfate	4000	D2	400	mg/L			11/16/22 21:31	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/16/22 18:47	11/17/22 22:48	1
Lithium	0.15		0.020	mg/L		11/18/22 21:51	12/05/22 15:35	1
Boron	2.1		0.050	mg/L		11/16/22 18:47	11/17/22 22:48	1
Calcium	610		2.0	mg/L		11/16/22 18:47	11/17/22 22:48	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 11:50	1
Arsenic	0.012		0.00050	mg/L		11/16/22 19:24	11/28/22 11:50	1
Barium	0.031		0.00050	mg/L		11/16/22 19:24	11/28/22 11:50	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 11:50	1
Chromium	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 11:50	1
Cobalt	0.011		0.00050	mg/L		11/16/22 19:24	11/28/22 11:50	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 11:50	1
Molybdenum	0.0023		0.00050	mg/L		11/16/22 19:24	11/28/22 11:50	1
Selenium	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 11:50	1
Thallium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 11:50	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00037		0.00020	mg/L		11/17/22 17:10	11/17/22 21:43	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	7100	D2	100	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	7.0	H5	1.7	SU			11/17/22 14:06	1
Temperature (SM 4500 H+ B)	12.4	H5 T5	0.1	Degrees C			11/17/22 14:06	1

Client Sample ID: FC-CCR-MW63-1122

Lab Sample ID: 550-193769-2
Matrix: Water

Date Collected: 11/13/22 12:28
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80	D1	4.0	mg/L			11/16/22 21:59	2
Fluoride	2.1	D1	0.80	mg/L			11/16/22 21:59	2
Sulfate	1700	D2	400	mg/L			11/16/22 22:27	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/16/22 18:47	11/17/22 22:51	1
Lithium	0.061		0.020	mg/L		11/18/22 21:51	12/05/22 15:39	1
Boron	1.1		0.050	mg/L		11/16/22 18:47	11/17/22 22:51	1
Calcium	420		2.0	mg/L		11/16/22 18:47	11/17/22 22:51	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW63-1122

Lab Sample ID: 550-193769-2
Date Collected: 11/13/22 12:28
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 11:52	1
Arsenic	**0.00063**		0.00050	mg/L		11/16/22 19:24	11/28/22 11:52	1
Barium	**0.023**		0.00050	mg/L		11/16/22 19:24	11/28/22 11:52	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 11:52	1
Chromium	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 11:52	1
Cobalt	**0.0026**		0.00050	mg/L		11/16/22 19:24	11/28/22 11:52	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 11:52	1
Molybdenum	**0.0036**		0.00050	mg/L		11/16/22 19:24	11/28/22 11:52	1
Selenium	**0.00051**		0.00050	mg/L		11/16/22 19:24	11/28/22 11:52	1
Thallium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 11:52	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/17/22 17:10	11/17/22 21:45	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**3000**	**D2**	40	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	**7.4**	**H5**	1.7	SU			11/17/22 14:07	1
Temperature (SM 4500 H+ B)	**11.2**	**H5 T5**	0.1	Degrees C			11/17/22 14:07	1

Client Sample ID: FC-CCR-MW64-1122

Lab Sample ID: 550-193769-3
Date Collected: 11/13/22 13:33
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**51**	**D1**	4.0	mg/L			11/16/22 17:47	2
Fluoride	**1.6**	**D1**	0.80	mg/L			11/16/22 17:47	2
Sulfate	**230**	**D2**	20	mg/L			11/29/22 16:05	10

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/16/22 18:47	11/17/22 22:54	1
Lithium	**0.021**		0.020	mg/L		11/18/22 21:51	12/05/22 15:43	1
Boron	**0.52**		0.050	mg/L		11/16/22 18:47	11/17/22 22:54	1
Calcium	**70**		2.0	mg/L		11/16/22 18:47	11/17/22 22:54	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 11:54	1
Arsenic	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 11:54	1
Barium	**0.023**		0.00050	mg/L		11/16/22 19:24	11/28/22 11:54	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 11:54	1
Chromium	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 11:54	1
Cobalt	**0.0018**		0.00050	mg/L		11/16/22 19:24	11/28/22 11:54	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 11:54	1
Molybdenum	**0.0052**		0.00050	mg/L		11/16/22 19:24	11/28/22 11:54	1
Selenium	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 11:54	1
Thallium	**0.00013**		0.00010	mg/L		11/16/22 19:24	11/28/22 11:54	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW64-1122

Lab Sample ID: 550-193769-3
Date Collected: 11/13/22 13:33
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/17/22 17:10	11/17/22 21:51	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	610		20	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	7.9	H5	1.7	SU			11/17/22 14:09	1
Temperature (SM 4500 H+ B)	10.6	H5 T5	0.1	Degrees C			11/17/22 14:09	1

Client Sample ID: FC-CCR-MW65-1122

Lab Sample ID: 550-193769-4
Date Collected: 11/13/22 09:37
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59	D1	4.0	mg/L			11/16/22 18:24	2
Fluoride	1.8	D1	0.80	mg/L			11/16/22 18:24	2
Sulfate	300	D2	20	mg/L			11/29/22 17:00	10

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/16/22 18:47	11/17/22 22:59	1
Lithium	0.050		0.020	mg/L		11/18/22 21:51	12/05/22 15:47	1
Boron	0.64		0.050	mg/L		11/16/22 18:47	11/17/22 22:59	1
Calcium	93		2.0	mg/L		11/16/22 18:47	11/17/22 22:59	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 11:56	1
Arsenic	0.00059		0.00050	mg/L		11/16/22 19:24	11/28/22 11:56	1
Barium	0.021		0.00050	mg/L		11/16/22 19:24	11/28/22 11:56	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 11:56	1
Chromium	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 11:56	1
Cobalt	0.0019		0.00050	mg/L		11/16/22 19:24	11/28/22 11:56	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 11:56	1
Molybdenum	0.0089		0.00050	mg/L		11/16/22 19:24	11/28/22 11:56	1
Selenium	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 11:56	1
Thallium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 11:56	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/17/22 17:10	11/17/22 21:53	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	840		20	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	7.8	H5	1.7	SU			11/17/22 14:10	1
Temperature (SM 4500 H+ B)	10.5	H5 T5	0.1	Degrees C			11/17/22 14:10	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-288840/2
Matrix: Water
Analysis Batch: 288840

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/16/22 10:53	1
Fluoride	ND		0.40		mg/L			11/16/22 10:53	1
Sulfate	ND		2.0		mg/L			11/16/22 10:53	1

Lab Sample ID: LCS 550-288840/5
Matrix: Water
Analysis Batch: 288840

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.18		mg/L		105	90 - 110		
Sulfate			20.0	21.1		mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-288840/6
Matrix: Water
Analysis Batch: 288840

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.22		mg/L		106	90 - 110	1	20
Sulfate			20.0	21.1		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-193739-A-3 MS
Matrix: Water
Analysis Batch: 288840

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	49		20.0	66.7		mg/L		90	80 - 120		
Fluoride	ND		4.00	4.46		mg/L		103	80 - 120		
Sulfate	110	E2 M3	20.0	119	E2 M3	mg/L		65	80 - 120		

Lab Sample ID: 550-193739-A-3 MSD
Matrix: Water
Analysis Batch: 288840

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	49		20.0	67.5		mg/L		94	80 - 120	1	20
Fluoride	ND		4.00	4.68		mg/L		109	80 - 120	5	20
Sulfate	110	E2 M3	20.0	119	E2 M3	mg/L		68	80 - 120	1	20

Lab Sample ID: MB 550-288844/2
Matrix: Water
Analysis Batch: 288844

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/16/22 10:49	1
Fluoride	ND		0.40		mg/L			11/16/22 10:49	1
Sulfate	ND		2.0		mg/L			11/16/22 10:49	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-288844/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.7		mg/L		103	90 - 110		
Fluoride			4.00	4.13		mg/L		103	90 - 110		
Sulfate			20.0	20.3		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-288844/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.7		mg/L		103	90 - 110	0	20
Fluoride			4.00	4.15		mg/L		104	90 - 110	0	20
Sulfate			20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-193743-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride	ND		4.00	4.32		mg/L		102	80 - 120		
Sulfate	110	M3	20.0	124	M3	mg/L		79	80 - 120		

Lab Sample ID: 550-193743-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	520	D2	200	742	D2	mg/L		112	80 - 120		

Lab Sample ID: 550-193743-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	ND		4.00	4.40		mg/L		104	80 - 120	2	20
Sulfate	110	M3	20.0	124	M3	mg/L		80	80 - 120	0	20

Lab Sample ID: 550-193743-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	520	D2	200	746	D2	mg/L		114	80 - 120	1	20

Lab Sample ID: MB 550-288953/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/17/22 11:41	1
Fluoride	ND		0.40		mg/L			11/17/22 11:41	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-288953/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			11/17/22 11:41	1

Lab Sample ID: LCS 550-288953/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.23		mg/L		106	90 - 110		
Sulfate			20.0	21.0		mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-288953/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.17		mg/L		104	90 - 110	1	20
Sulfate			20.0	20.5		mg/L		102	90 - 110	2	20

Lab Sample ID: 550-193753-K-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	910	D2	200	1110	D2 M3	mg/L		98	80 - 120		
Fluoride	ND	D1 D5	40.0	41.8	D1	mg/L		104	80 - 120		
Sulfate	390	D2	200	600	D2	mg/L		105	80 - 120		

Lab Sample ID: 550-193753-K-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	910	D2	200	1100	D2 M3	mg/L		93	80 - 120	1	20
Fluoride	ND	D1 D5	40.0	42.9	D1	mg/L		107	80 - 120	3	20
Sulfate	390	D2	200	598	D2	mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-289643/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/29/22 10:49	1
Fluoride	ND		0.40		mg/L			11/29/22 10:49	1
Sulfate	ND		2.0		mg/L			11/29/22 10:49	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-289643/11 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.4		mg/L		102	90 - 110		
Fluoride			4.00	4.06		mg/L		102	90 - 110		
Sulfate			20.0	20.9	N1	mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-289643/10 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride			4.00	4.18		mg/L		104	90 - 110	3	20

Lab Sample ID: 550-193769-3 MS — **Client Sample ID: FC-CCR-MW64-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate	230	D2	200	438	D2	mg/L		105	80 - 120		

Lab Sample ID: 550-193769-3 MSD — **Client Sample ID: FC-CCR-MW64-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	230	D2	200	437	D2	mg/L		104	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-288846/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288990 — **Prep Batch: 288846**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/16/22 18:47	11/17/22 22:00	1
Boron	ND		0.050		mg/L		11/16/22 18:47	11/17/22 22:00	1
Calcium	ND		2.0		mg/L		11/16/22 18:47	11/17/22 22:00	1

Lab Sample ID: LCS 550-288846/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288990 — **Prep Batch: 288846**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	1.01		mg/L		101	85 - 115		
Boron			1.00	0.985		mg/L		99	85 - 115		
Calcium			21.0	21.3		mg/L		101	85 - 115		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-288846/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288990 — **Prep Batch: 288846**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.00		mg/L		100	85 - 115	1	20
Boron			1.00	0.985		mg/L		98	85 - 115	0	20
Calcium			21.0	21.4		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-193735-J-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288990 — **Prep Batch: 288846**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium	ND		1.00	1.03		mg/L		103	70 - 130		
Boron	0.18		1.00	1.20		mg/L		103	70 - 130		
Calcium	160		21.0	175	M3	mg/L		79	70 - 130		

Lab Sample ID: 550-193735-J-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288990 — **Prep Batch: 288846**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.04		mg/L		104	70 - 130	1	20
Boron	0.18		1.00	1.20		mg/L		103	70 - 130	0	20
Calcium	160		21.0	174	M3	mg/L		76	70 - 130	0	20

Lab Sample ID: MB 280-593965/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595605 — **Prep Batch: 593965**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020		mg/L		11/18/22 21:51	12/05/22 15:11	1

Lab Sample ID: LCS 280-593965/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595605 — **Prep Batch: 593965**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.993		mg/L		99	90 - 112		

Lab Sample ID: LCSD 280-593965/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595605 — **Prep Batch: 593965**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	0.998		mg/L		100	90 - 112	1	20

Lab Sample ID: 280-169150-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 595605 — **Prep Batch: 593965**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.30		1.00	1.35		mg/L		105	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-288849/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289502 — **Prep Batch: 288849**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010		mg/L		11/16/22 19:24	11/28/22 11:21	1
Arsenic	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Barium	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Cadmium	ND		0.00010		mg/L		11/16/22 19:24	11/28/22 11:21	1
Chromium	ND		0.0010		mg/L		11/16/22 19:24	11/28/22 11:21	1
Cobalt	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Lead	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Molybdenum	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Selenium	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Thallium	ND		0.00010		mg/L		11/16/22 19:24	11/28/22 11:21	1

Lab Sample ID: LCS 550-288849/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289502 — **Prep Batch: 288849**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			0.100	0.0977		mg/L		98	85 - 115		
Arsenic			0.100	0.0979		mg/L		98	85 - 115		
Barium			0.100	0.109		mg/L		109	85 - 115		
Cadmium			0.100	0.0942		mg/L		94	85 - 115		
Chromium			0.100	0.0982		mg/L		98	85 - 115		
Cobalt			0.100	0.100		mg/L		100	85 - 115		
Lead			0.100	0.0959		mg/L		96	85 - 115		
Molybdenum			0.100	0.0937		mg/L		94	85 - 115		
Selenium			0.100	0.0983		mg/L		98	85 - 115		
Thallium			0.100	0.0985		mg/L		99	85 - 115		

Lab Sample ID: LCSD 550-288849/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289502 — **Prep Batch: 288849**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony			0.100	0.102		mg/L		102	85 - 115	4	20
Arsenic			0.100	0.102		mg/L		102	85 - 115	4	20
Barium			0.100	0.113		mg/L		113	85 - 115	4	20
Cadmium			0.100	0.0985		mg/L		98	85 - 115	4	20
Chromium			0.100	0.103		mg/L		103	85 - 115	5	20
Cobalt			0.100	0.103		mg/L		103	85 - 115	3	20
Lead			0.100	0.102		mg/L		102	85 - 115	7	20
Molybdenum			0.100	0.0989		mg/L		99	85 - 115	5	20
Selenium			0.100	0.102		mg/L		102	85 - 115	3	20
Thallium			0.100	0.103		mg/L		103	85 - 115	4	20

Lab Sample ID: 550-193751-E-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289502 — **Prep Batch: 288849**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		0.100	0.106		mg/L		101	70 - 130		

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-193751-E-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289502 — **Prep Batch: 288849**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	ND		0.100	0.109		mg/L		109	70 - 130
Barium	0.11		0.100	0.212		mg/L		102	70 - 130
Cadmium	ND		0.100	0.0961		mg/L		96	70 - 130
Chromium	ND		0.100	0.0991		mg/L		99	70 - 130
Cobalt	ND		0.100	0.116		mg/L		105	70 - 130
Lead	ND		0.100	0.0919		mg/L		92	70 - 130
Molybdenum	0.27		0.100	0.339		mg/L		73	70 - 130
Selenium	ND		0.100	0.114		mg/L		104	70 - 130
Thallium	ND	R4	0.100	0.0951		mg/L		95	70 - 130

Lab Sample ID: 550-193751-E-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289502 — **Prep Batch: 288849**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.109		mg/L		104	70 - 130	12	20
Arsenic	ND		0.100	0.115		mg/L		115	70 - 130	1	20
Barium	0.11		0.100	0.209		mg/L		99	70 - 130	5	20
Cadmium	ND		0.100	0.0984		mg/L		98	70 - 130	4	20
Chromium	ND		0.100	0.107		mg/L		107	70 - 130	6	20
Cobalt	ND		0.100	0.121		mg/L		110	70 - 130	4	20
Lead	ND		0.100	0.0973		mg/L		97	70 - 130	13	20
Molybdenum	0.27		0.100	0.356		mg/L		90	70 - 130	0	20
Selenium	ND		0.100	0.120		mg/L		110	70 - 130	14	20
Thallium	ND	R4	0.100	0.101		mg/L		101	70 - 130	22	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-288744/1-E — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/17/22 17:10	11/17/22 22:09	1

Lab Sample ID: MB 550-288933/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/17/22 17:10	11/17/22 21:09	1

Lab Sample ID: LCS 550-288933/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury			0.00500	0.00455		mg/L		91	85 - 115

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 550-288933/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			0.00500	0.00463		mg/L		93	85 - 115	2	20

Lab Sample ID: 550-193817-AF-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND	M2 R13	0.00500	0.000507	M2	mg/L		10	70 - 130		

Lab Sample ID: 550-193817-AF-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	M2 R13	0.00500	0.00276	M2 R13	mg/L		55	70 - 130	138	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-289060/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/18/22 18:55	1

Lab Sample ID: LCS 550-289060/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	990		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-289060/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	968		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-193685-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1350		mg/L				6	10

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-288919/25
Matrix: Water
Analysis Batch: 288919

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-288919/37
Matrix: Water
Analysis Batch: 288919

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: 550-193775-A-14 DU
Matrix: Water
Analysis Batch: 288919

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	H5		7.4	H5	SU				0.1	5
Temperature	12.3	H5		12.4	H5	Degrees C				0.8	

HPLC/IC

Analysis Batch: 288840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	300.0	
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	300.0	
MB 550-288840/2	Method Blank	Total/NA	Water	300.0	
LCS 550-288840/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-288840/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193739-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
550-193739-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 288844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	300.0	
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	300.0	
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	300.0	
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	300.0	
MB 550-288844/2	Method Blank	Total/NA	Water	300.0	
LCS 550-288844/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-288844/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193743-F-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193743-F-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193743-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-193743-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 288953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-288953/2	Method Blank	Total/NA	Water	300.0	
LCS 550-288953/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-288953/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193753-K-4 MS	Matrix Spike	Total/NA	Water	300.0	
550-193753-K-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	300.0	
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	300.0	
MB 550-289643/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289643/11	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289643/10	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193769-3 MS	FC-CCR-MW64-1122	Total/NA	Water	300.0	
550-193769-3 MSD	FC-CCR-MW64-1122	Total/NA	Water	300.0	

Metals

Filtration Batch: 288744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-288744/1-E	Method Blank	Total/NA	Water	Filtration	

Prep Batch: 288846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	200.7	
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	200.7	
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 288846 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	200.7	
MB 550-288846/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-288846/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-288846/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193735-J-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-193735-J-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 288849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	200.8	
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	200.8	
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	200.8	
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	200.8	
MB 550-288849/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-288849/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-288849/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193751-E-1-B MS	Matrix Spike	Total/NA	Water	200.8	
550-193751-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 288933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	245.1	
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	245.1	
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	245.1	
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	245.1	
MB 550-288744/1-E	Method Blank	Total/NA	Water	245.1	288744
MB 550-288933/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-288933/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-288933/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-193817-AF-1-D MS	Matrix Spike	Total/NA	Water	245.1	
550-193817-AF-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 288990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	200.7 Rev 4.4	288846
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	200.7 Rev 4.4	288846
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	200.7 Rev 4.4	288846
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	200.7 Rev 4.4	288846
MB 550-288846/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	288846
LCS 550-288846/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	288846
LCSD 550-288846/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	288846
550-193735-J-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	288846
550-193735-J-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	288846

Analysis Batch: 289047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	245.1	288933
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	245.1	288933
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	245.1	288933
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	245.1	288933
MB 550-288744/1-E	Method Blank	Total/NA	Water	245.1	288933

Metals (Continued)

Analysis Batch: 289047 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-288933/1-A	Method Blank	Total/NA	Water	245.1	288933
LCS 550-288933/2-A	Lab Control Sample	Total/NA	Water	245.1	288933
LCSD 550-288933/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	288933
550-193817-AF-1-D MS	Matrix Spike	Total/NA	Water	245.1	288933
550-193817-AF-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	288933

Analysis Batch: 289502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	200.8 LL	288849
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	200.8 LL	288849
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	200.8 LL	288849
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	200.8 LL	288849
MB 550-288849/1-A	Method Blank	Total/NA	Water	200.8 LL	288849
LCS 550-288849/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	288849
LCSD 550-288849/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	288849
550-193751-E-1-B MS	Matrix Spike	Total/NA	Water	200.8 LL	288849
550-193751-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	288849

Prep Batch: 593965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	200.7	
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	200.7	
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	200.7	
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	200.7	
MB 280-593965/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-593965/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-593965/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-169150-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	

Analysis Batch: 595605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	200.7 Rev 4.4	593965
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	200.7 Rev 4.4	593965
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	200.7 Rev 4.4	593965
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	200.7 Rev 4.4	593965
MB 280-593965/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	593965
LCS 280-593965/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	593965
LCSD 280-593965/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	593965
280-169150-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	593965

General Chemistry

Analysis Batch: 288919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	SM 4500 H+ B	
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	SM 4500 H+ B	
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	SM 4500 H+ B	
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-288919/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-288919/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-193775-A-14 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

General Chemistry

Analysis Batch: 289060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193769-1	FC-CCR-MW62-1122	Total/NA	Water	SM 2540C	
550-193769-2	FC-CCR-MW63-1122	Total/NA	Water	SM 2540C	
550-193769-3	FC-CCR-MW64-1122	Total/NA	Water	SM 2540C	
550-193769-4	FC-CCR-MW65-1122	Total/NA	Water	SM 2540C	
MB 550-289060/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289060/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289060/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193685-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW62-1122
Lab Sample ID: 550-193769-1
Date Collected: 11/13/22 11:57
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288844	AS1	EET PHX	11/16/22 21:03
Total/NA	Analysis	300.0		200	288844	AS1	EET PHX	11/16/22 21:31
Total/NA	Prep	200.7			288846	ABA	EET PHX	11/16/22 18:47
Total/NA	Analysis	200.7 Rev 4.4		1	288990	CHS	EET PHX	11/17/22 22:48
Total/NA	Prep	200.7			593965	MCR	EET DEN	11/18/22 21:51
Total/NA	Analysis	200.7 Rev 4.4		1	595605	KRP	EET DEN	12/05/22 15:35
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 11:50
Total/NA	Prep	245.1			288933	ABA	EET PHX	11/17/22 17:10
Total/NA	Analysis	245.1		1	289047	SRR	EET PHX	11/17/22 21:43
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:06

Client Sample ID: FC-CCR-MW63-1122
Lab Sample ID: 550-193769-2
Date Collected: 11/13/22 12:28
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288844	AS1	EET PHX	11/16/22 21:59
Total/NA	Analysis	300.0		200	288844	AS1	EET PHX	11/16/22 22:27
Total/NA	Prep	200.7			288846	ABA	EET PHX	11/16/22 18:47
Total/NA	Analysis	200.7 Rev 4.4		1	288990	CHS	EET PHX	11/17/22 22:51
Total/NA	Prep	200.7			593965	MCR	EET DEN	11/18/22 21:51
Total/NA	Analysis	200.7 Rev 4.4		1	595605	KRP	EET DEN	12/05/22 15:39
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 11:52
Total/NA	Prep	245.1			288933	ABA	EET PHX	11/17/22 17:10
Total/NA	Analysis	245.1		1	289047	SRR	EET PHX	11/17/22 21:45
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:07

Client Sample ID: FC-CCR-MW64-1122
Lab Sample ID: 550-193769-3
Date Collected: 11/13/22 13:33
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/16/22 17:47
Total/NA	Analysis	300.0		10	289643	AS1	EET PHX	11/29/22 16:05
Total/NA	Prep	200.7			288846	ABA	EET PHX	11/16/22 18:47
Total/NA	Analysis	200.7 Rev 4.4		1	288990	CHS	EET PHX	11/17/22 22:54
Total/NA	Prep	200.7			593965	MCR	EET DEN	11/18/22 21:51
Total/NA	Analysis	200.7 Rev 4.4		1	595605	KRP	EET DEN	12/05/22 15:43
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 11:54

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-MW64-1122

Lab Sample ID: 550-193769-3
Date Collected: 11/13/22 13:33
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	245.1			288933	ABA	EET PHX	11/17/22 17:10
Total/NA	Analysis	245.1		1	289047	SRR	EET PHX	11/17/22 21:51
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:09

Client Sample ID: FC-CCR-MW65-1122

Lab Sample ID: 550-193769-4
Date Collected: 11/13/22 09:37
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/16/22 18:24
Total/NA	Analysis	300.0		10	289643	AS1	EET PHX	11/29/22 17:00
Total/NA	Prep	200.7			288846	ABA	EET PHX	11/16/22 18:47
Total/NA	Analysis	200.7 Rev 4.4		1	288990	CHS	EET PHX	11/17/22 22:59
Total/NA	Prep	200.7			593965	MCR	EET DEN	11/18/22 21:51
Total/NA	Analysis	200.7 Rev 4.4		1	595605	KRP	EET DEN	12/05/22 15:47
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 11:56
Total/NA	Prep	245.1			288933	ABA	EET PHX	11/17/22 17:10
Total/NA	Analysis	245.1		1	289047	SRR	EET PHX	11/17/22 21:53
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:10

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	05-31-23
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22 *
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-01-24
Kansas	NELAP	E-10166	04-30-23
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Louisiana (All)	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-23
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-23
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-23
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	09-30-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-23
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-23
Wisconsin	State	999615430	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193769-1
SDG: APS Four Corners Power Plant (CWTP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

1975
9/5 873

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

193769

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			Walk-in Client:
	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (CWTP)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
-1	FC-CCR-MW62-1122	11/13/2022	11:57	G	W	2	N	N	X	X	X	X	X	X	Low Flow
-2	FC-CCR-MW63-1122	11/13/2022	12:28	G	W	2	N	N	X	X	X	X	X	X	"
-3	FC-CCR-MW64-1122	11/13/2022	13:33	G	W	2	N	N	X	X	X	X	X	X	"
-4	FC-CCR-MW65-1122	11/13/2022	9:37	G	W	2	N	N	X	X	X	X	X	X	"
									1	1	1	4	4	4	

550-193769 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.8°C, 1.1°C, 1.4°C ICE CDS

Custody Seals Intact ☐ Yes ☐ No | Custody Seal No.:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WSP	11/16/22@08:00	Derrick Smith	AHOTSHOT	11-16-2022 7:58AM
[signature]	A-HotShot	11-16-2022			
		1418	Received in Laboratory by: [signature]	EETA-PHX	11/16/22 1418

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No: 550-35405.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-193769-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/1/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW62-1122 (550-193769-1)	11/13/22	11:57 Arizona		Water			X	1	AZ Sample
FC-CCR-MW63-1122 (550-193769-2)	11/13/22	12:28 Arizona		Water			X	1	AZ Sample
FC-CCR-MW64-1122 (550-193769-3)	11/13/22	13:33 Arizona		Water			X	1	AZ Sample
FC-CCR-MW65-1122 (550-193769-4)	11/13/22	09:37 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible] 11-16-22	16:15	ETSW	Fedex		
Feder			[illegible]	11/17/22 1030	ETAHON

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: 188 2789
Cooler Temperature(s) °C and Other Remarks: 1.6 IR/2 CF 0.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193769-1
SDG Number: APS Four Corners Power Plant (CWTP)

Login Number: 193769
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193769-1
SDG Number: APS Four Corners Power Plant (CWTP)

Login Number: 193769
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 11/17/22 04:28 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 12/7/2022 5:29:47 AM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Four Corners Power Plant (URS)

JOB NUMBER

550-193770-1

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix AZ 85040

See page two for job notes and contact information.

my EOL

Eurofins Phoenix

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization

Generated
12/7/2022 5:29:47 AM

Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
N1	See case narrative.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-193770-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-193770-1

Comments
No additional comments.

Receipt
The samples were received on 11/16/2022 2:18 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.1º C and 1.4º C.

HPLC/IC
Method 300.0: The following samples were diluted for Fluoride due to high concentrations of Chloride and Sulfate: FC-CCR-MW72-1122 (550-193770-6), FC-CCR-MW73-1122 (550-193770-7), FC-CCR-MW84-1122 (550-193770-9) and FC-CCR-MW86-1122 (550-193770-10). Elevated reporting limits (RLs) have been provided.

Method 300.0: The following samples were diluted for Fluoride due to high concentrations of Chloride and Sulfate: FC-CCR-MW71-1122 (550-193770-5) and FC-CCR-FD01-1122 (550-193770-11). Elevated reporting limits (RLs) have been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-289387 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-289502 contained Selenium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. Affected samples: FC-CCR-MW68-1122 (550-193770-2), FC-CCR-MW69-1122 (550-193770-3), FC-CCR-MW70-1122 (550-193770-4), FC-CCR-MW71-1122 (550-193770-5), FC-CCR-MW72-1122 (550-193770-6), FC-CCR-MW73-1122 (550-193770-7) and FC-CCR-MW84-1122 (550-193770-9)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 2540C: Reanalysis of the following sample was performed outside of the 7 day analytical holding time for Total Dissolved Solids due to yielding excessive residue in the initial analysis. The residue result was greater than the method required amount of 0.2 g; therefore, the test was re-performed using a smaller sample volume. The reanalysis conformed to the method specified residue requirements and the result concurred with the original run. As such, both results have been reported; the original run has been qualified with a N1 flag and the reanalysis has been qualified with a H2 and D2 flags.

FC-CCR-MW83-1122 (550-193770-8)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-193770-1	FC-CCR-MW66-1122	Water	11/13/22 11:12	11/16/22 14:18
550-193770-2	FC-CCR-MW68-1122	Water	11/13/22 16:10	11/16/22 14:18
550-193770-3	FC-CCR-MW69-1122	Water	11/14/22 08:52	11/16/22 14:18
550-193770-4	FC-CCR-MW70-1122	Water	11/13/22 08:32	11/16/22 14:18
550-193770-5	FC-CCR-MW71-1122	Water	11/13/22 15:20	11/16/22 14:18
550-193770-6	FC-CCR-MW72-1122	Water	11/13/22 14:33	11/16/22 14:18
550-193770-7	FC-CCR-MW73-1122	Water	11/14/22 11:53	11/16/22 14:18
550-193770-8	FC-CCR-MW83-1122	Water	11/14/22 10:38	11/16/22 14:18
550-193770-9	FC-CCR-MW84-1122	Water	11/14/22 09:42	11/16/22 14:18
550-193770-10	FC-CCR-MW86-1122	Water	11/13/22 10:22	11/16/22 14:18
550-193770-11	FC-CCR-FD01-1122	Water	11/14/22 14:20	11/16/22 14:18
550-193770-12	FC-CCR-FD02-1122	Water	11/13/22 13:11	11/16/22 14:18

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW66-1122 — Lab Sample ID: 550-193770-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	400		mg/L	200		300.0	Total/NA
Fluoride	16	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	11000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.30		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	130	D2	0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	480		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0013		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.020		0.00050		mg/L	1		200.8 LL	Total/NA
Chromium	0.0010		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.015		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.019		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0025		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00099		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	19000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.4	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-1122 — Lab Sample ID: 550-193770-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400		mg/L	200		300.0	Total/NA
Fluoride	7.5	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	12000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.40		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	120	D2	0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0012		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.017		0.00050		mg/L	1		200.8 LL	Total/NA
Chromium	0.0011		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0034		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0054		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.011		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.0014		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	18000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW69-1122 — Lab Sample ID: 550-193770-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	790	D2	400		mg/L	200		300.0	Total/NA
Fluoride	4.2	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	4600	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.18		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	40		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	550		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0015		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.0080		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0024		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0060		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.18		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00027		0.00010		mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW69-1122 (Continued) — Lab Sample ID: 550-193770-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	8000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW70-1122 — Lab Sample ID: 550-193770-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400		mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	5700	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.32		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	90		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	540		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00089		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.00029		0.00010		mg/L	1		200.8 LL	Total/NA
Chromium	0.0015		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0030		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0049		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.20		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00019		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	11000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.1	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW71-1122 — Lab Sample ID: 550-193770-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	530	D2	400		mg/L	200		300.0	Total/NA
Sulfate	12000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.37		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.52		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00073		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.00052		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.36		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00043		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	19000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-1122 — Lab Sample ID: 550-193770-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	400	D2	400		mg/L	200		300.0	Total/NA
Sulfate	10000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.34		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.15		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00070		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.0086		0.00050		mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW72-1122 (Continued) — Lab Sample ID: 550-193770-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0026		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.00077		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.12		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.0010		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	15000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW73-1122 — Lab Sample ID: 550-193770-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	610	D2	400		mg/L	200		300.0	Total/NA
Sulfate	6800	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.29		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.6		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00092		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.022		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.00017		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0042		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0011		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0095		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00025		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	12000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.2	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW83-1122 — Lab Sample ID: 550-193770-8

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	130	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	2.0	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3400	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.16		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.5		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00069		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0017		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0075		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0022		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	5800	N1	20		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.4	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW84-1122 — Lab Sample ID: 550-193770-9

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	870	D2	400		mg/L	200		300.0	Total/NA
Sulfate	8400	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.23		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	67		0.050		mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW84-1122 (Continued) — Lab Sample ID: 550-193770-9

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Calcium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0010		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.018		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.00019		0.00010		mg/L	1		200.8 LL	Total/NA
Chromium	0.0010		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0080		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0012		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.12		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00046		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	15000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.4	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW86-1122 — Lab Sample ID: 550-193770-10

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	400		mg/L	200		300.0	Total/NA
Sulfate	8600	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.29		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	110	D2	0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	500		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0012		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.014		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0053		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0012		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0026		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00080		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	15000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.6	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD01-1122 — Lab Sample ID: 550-193770-11

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	890	D2	400		mg/L	200		300.0	Total/NA
Sulfate	8800	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.22		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	68		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00084		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.017		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.00019		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0074		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0013		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.12		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00044		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	15000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.6	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD02-1122

Lab Sample ID: 550-193770-12

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	400		mg/L	200		300.0	Total/NA
Fluoride	1.0	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	9000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.30		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	110	D2	0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0011		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.014		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0052		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0012		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0032		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00082		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	15000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW66-1122

Lab Sample ID: 550-193770-1
Matrix: Water

Date Collected: 11/13/22 11:12
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	400	mg/L			11/16/22 19:19	200
Fluoride	16	D1	0.80	mg/L			11/16/22 19:01	2
Sulfate	11000	D2	400	mg/L			11/16/22 19:19	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/16/22 18:47	11/17/22 23:11	1
Lithium	0.30		0.020	mg/L		12/01/22 09:30	12/01/22 22:18	1
Boron	130	D2	0.10	mg/L		11/16/22 18:47	11/18/22 11:28	2
Calcium	480		2.0	mg/L		11/16/22 18:47	11/17/22 23:11	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:02	1
Arsenic	0.0013		0.00050	mg/L		11/16/22 19:24	11/28/22 12:02	1
Barium	0.020		0.00050	mg/L		11/16/22 19:24	11/28/22 12:02	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 12:02	1
Chromium	0.0010		0.0010	mg/L		11/16/22 19:24	11/28/22 12:02	1
Cobalt	0.015		0.00050	mg/L		11/16/22 19:24	11/28/22 12:02	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:02	1
Molybdenum	0.019		0.00050	mg/L		11/16/22 19:24	11/28/22 12:02	1
Selenium	0.0025		0.00050	mg/L		11/16/22 19:24	11/29/22 14:52	1
Thallium	0.00099		0.00010	mg/L		11/16/22 19:24	11/28/22 12:02	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/17/22 17:10	11/17/22 21:55	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	19000	D2	200	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			11/17/22 14:17	1
Temperature (SM 4500 H+ B)	11.4	H5 T5	0.1	Degrees C			11/17/22 14:17	1

Client Sample ID: FC-CCR-MW68-1122

Lab Sample ID: 550-193770-2
Matrix: Water

Date Collected: 11/13/22 16:10
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	mg/L			11/16/22 20:51	200
Fluoride	7.5	D1	0.80	mg/L			11/16/22 20:33	2
Sulfate	12000	D2	400	mg/L			11/16/22 20:51	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/16/22 18:47	11/17/22 23:14	1
Lithium	0.40		0.020	mg/L		12/01/22 09:30	12/01/22 22:22	1
Boron	120	D2	0.10	mg/L		11/16/22 18:47	11/18/22 11:31	2
Calcium	490		2.0	mg/L		11/16/22 18:47	11/17/22 23:14	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW68-1122

Lab Sample ID: 550-193770-2
Date Collected: 11/13/22 16:10
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:04	1
Arsenic	**0.0012**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:04	1
Barium	**0.017**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:04	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 12:04	1
Chromium	**0.0011**		0.0010	mg/L		11/16/22 19:24	11/28/22 12:04	1
Cobalt	**0.0034**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:04	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:04	1
Molybdenum	**0.0054**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:04	1
Selenium	**0.011**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:04	1
Thallium	**0.0014**		0.00010	mg/L		11/16/22 19:24	11/28/22 12:04	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/17/22 17:10	11/17/22 21:57	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**18000**	**D2**	200	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	**7.1**	**H5**	1.7	SU			11/17/22 14:18	1
Temperature (SM 4500 H+ B)	**12.0**	**H5 T5**	0.1	Degrees C			11/17/22 14:18	1

Client Sample ID: FC-CCR-MW69-1122

Lab Sample ID: 550-193770-3
Date Collected: 11/14/22 08:52
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**790**	**D2**	400	mg/L			11/16/22 21:28	200
Fluoride	**4.2**	**D1**	0.80	mg/L			11/16/22 21:10	2
Sulfate	**4600**	**D2**	400	mg/L			11/16/22 21:28	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 13:37	1
Lithium	**0.18**		0.020	mg/L		12/01/22 09:30	12/01/22 22:26	1
Boron	**40**		0.050	mg/L		11/21/22 05:46	11/22/22 13:37	1
Calcium	**550**		2.0	mg/L		11/21/22 05:46	11/22/22 13:37	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:06	1
Arsenic	**0.0015**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:06	1
Barium	**0.0080**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:06	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 12:06	1
Chromium	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:06	1
Cobalt	**0.0024**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:06	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:06	1
Molybdenum	**0.0060**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:06	1
Selenium	**0.18**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:06	1
Thallium	**0.00027**		0.00010	mg/L		11/16/22 19:24	11/28/22 12:06	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW69-1122

Lab Sample ID: 550-193770-3
Date Collected: 11/14/22 08:52
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/17/22 17:10	11/17/22 21:59	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	8000	D2	100	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			11/17/22 14:19	1
Temperature (SM 4500 H+ B)	12.1	H5 T5	0.1	Degrees C			11/17/22 14:19	1

Client Sample ID: FC-CCR-MW70-1122

Lab Sample ID: 550-193770-4
Date Collected: 11/13/22 08:32
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	mg/L			11/16/22 22:05	200
Fluoride	1.4	D1	0.80	mg/L			11/16/22 21:46	2
Sulfate	5700	D2	400	mg/L			11/16/22 22:05	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 13:40	1
Lithium	0.32		0.020	mg/L		12/01/22 09:30	12/01/22 22:30	1
Boron	90		0.050	mg/L		11/21/22 05:46	11/22/22 13:40	1
Calcium	540		2.0	mg/L		11/21/22 05:46	11/22/22 13:40	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:08	1
Arsenic	0.00089		0.00050	mg/L		11/16/22 19:24	11/28/22 12:08	1
Barium	0.012		0.00050	mg/L		11/16/22 19:24	11/28/22 12:08	1
Cadmium	0.00029		0.00010	mg/L		11/16/22 19:24	11/28/22 12:08	1
Chromium	0.0015		0.0010	mg/L		11/16/22 19:24	11/28/22 12:08	1
Cobalt	0.0030		0.00050	mg/L		11/16/22 19:24	11/28/22 12:08	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:08	1
Molybdenum	0.0049		0.00050	mg/L		11/16/22 19:24	11/28/22 12:08	1
Selenium	0.20		0.00050	mg/L		11/16/22 19:24	11/28/22 12:08	1
Thallium	0.00019		0.00010	mg/L		11/16/22 19:24	11/28/22 12:08	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 13:58	11/18/22 17:23	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	11000	D2	100	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	7.1	H5	1.7	SU			11/17/22 14:20	1
Temperature (SM 4500 H+ B)	11.1	H5 T5	0.1	Degrees C			11/17/22 14:20	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW71-1122

Lab Sample ID: 550-193770-5
Date Collected: 11/13/22 15:20
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	530	D2	400	mg/L			11/17/22 02:10	200
Fluoride	ND	D1 D5	0.80	mg/L			11/17/22 01:42	2
Sulfate	12000	D2	400	mg/L			11/17/22 02:10	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 13:43	1
Lithium	0.37		0.020	mg/L		12/01/22 09:30	12/01/22 22:34	1
Boron	0.52		0.050	mg/L		11/21/22 05:46	11/22/22 13:43	1
Calcium	490		2.0	mg/L		11/21/22 05:46	11/22/22 13:43	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:11	1
Arsenic	0.00073		0.00050	mg/L		11/16/22 19:24	11/28/22 12:11	1
Barium	0.012		0.00050	mg/L		11/16/22 19:24	11/28/22 12:11	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 12:11	1
Chromium	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:11	1
Cobalt	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:11	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:11	1
Molybdenum	0.00052		0.00050	mg/L		11/16/22 19:24	11/28/22 12:11	1
Selenium	0.36		0.00050	mg/L		11/16/22 19:24	11/28/22 12:11	1
Thallium	0.00043		0.00010	mg/L		11/16/22 19:24	11/28/22 12:11	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 13:58	11/18/22 17:29	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	19000	D2	100	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	7.1	H5	1.7	SU			11/17/22 14:21	1
Temperature (SM 4500 H+ B)	12.3	H5 T5	0.1	Degrees C			11/17/22 14:21	1

Client Sample ID: FC-CCR-MW72-1122

Lab Sample ID: 550-193770-6
Date Collected: 11/13/22 14:33
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	400	D2	400	mg/L			11/16/22 22:42	200
Fluoride	ND	D1 D5	0.80	mg/L			11/16/22 22:23	2
Sulfate	10000	D2	400	mg/L			11/16/22 22:42	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 13:52	1
Lithium	0.34		0.020	mg/L		12/01/22 09:30	12/01/22 22:38	1
Boron	0.15		0.050	mg/L		11/21/22 05:46	11/23/22 18:14	1
Calcium	470		2.0	mg/L		11/21/22 05:46	11/22/22 13:52	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW72-1122

Lab Sample ID: 550-193770-6
Date Collected: 11/13/22 14:33
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:13	1
Arsenic	**0.00070**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:13	1
Barium	**0.0086**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:13	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 12:13	1
Chromium	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:13	1
Cobalt	**0.0026**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:13	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:13	1
Molybdenum	**0.00077**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:13	1
Selenium	**0.12**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:13	1
Thallium	**0.0010**		0.00010	mg/L		11/16/22 19:24	11/28/22 12:13	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 13:58	11/18/22 17:31	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**15000**	**D2**	100	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	**7.2**	**H5**	1.7	SU			11/17/22 14:22	1
Temperature (SM 4500 H+ B)	**12.0**	**H5 T5**	0.1	Degrees C			11/17/22 14:22	1

Client Sample ID: FC-CCR-MW73-1122

Lab Sample ID: 550-193770-7
Date Collected: 11/14/22 11:53
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**610**	**D2**	400	mg/L			11/16/22 23:18	200
Fluoride	ND	D1 D5	0.80	mg/L			11/16/22 23:00	2
Sulfate	**6800**	**D2**	400	mg/L			11/16/22 23:18	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 13:54	1
Lithium	**0.29**		0.020	mg/L		12/01/22 09:30	12/01/22 22:58	1
Boron	**1.6**		0.050	mg/L		11/21/22 05:46	11/22/22 13:54	1
Calcium	**490**		2.0	mg/L		11/21/22 05:46	11/22/22 13:54	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:15	1
Arsenic	**0.00092**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:15	1
Barium	**0.022**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:15	1
Cadmium	**0.00017**		0.00010	mg/L		11/16/22 19:24	11/28/22 12:15	1
Chromium	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:15	1
Cobalt	**0.0042**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:15	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:15	1
Molybdenum	**0.0011**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:15	1
Selenium	**0.0095**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:15	1
Thallium	**0.00025**		0.00010	mg/L		11/16/22 19:24	11/28/22 12:15	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW73-1122

Lab Sample ID: 550-193770-7
Date Collected: 11/14/22 11:53
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 13:58	11/18/22 17:33	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	12000	D2	100	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	7.0	H5	1.7	SU			11/17/22 14:23	1
Temperature (SM 4500 H+ B)	11.2	H5 T5	0.1	Degrees C			11/17/22 14:23	1

Client Sample ID: FC-CCR-MW83-1122

Lab Sample ID: 550-193770-8
Date Collected: 11/14/22 10:38
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130	D2	4.0	mg/L			11/17/22 00:32	2
Fluoride	2.0	D1	0.80	mg/L			11/17/22 00:32	2
Sulfate	3400	D2	400	mg/L			11/29/22 15:46	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 13:57	1
Lithium	0.16		0.020	mg/L		12/01/22 09:30	12/01/22 23:02	1
Boron	2.5		0.050	mg/L		11/21/22 05:46	11/22/22 13:57	1
Calcium	490		2.0	mg/L		11/21/22 05:46	11/22/22 13:57	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:17	1
Arsenic	0.00069		0.00050	mg/L		11/16/22 19:24	11/28/22 12:17	1
Barium	0.012		0.00050	mg/L		11/16/22 19:24	11/28/22 12:17	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 12:17	1
Chromium	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:17	1
Cobalt	0.0017		0.00050	mg/L		11/16/22 19:24	11/28/22 12:17	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:17	1
Molybdenum	0.0075		0.00050	mg/L		11/16/22 19:24	11/28/22 12:17	1
Selenium	0.0022		0.00050	mg/L		11/16/22 19:24	11/29/22 14:54	1
Thallium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 12:17	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 13:58	11/18/22 17:35	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	5800	N1	20	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			11/17/22 14:24	1
Temperature (SM 4500 H+ B)	12.4	H5 T5	0.1	Degrees C			11/17/22 14:24	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW84-1122

Lab Sample ID: 550-193770-9
Date Collected: 11/14/22 09:42
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	870	D2	400	mg/L			11/17/22 01:27	200
Fluoride	ND	D1 D5	0.80	mg/L			11/17/22 01:09	2
Sulfate	8400	D2	400	mg/L			11/29/22 16:14	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 14:00	1
Lithium	0.23		0.020	mg/L		12/01/22 09:30	12/01/22 23:07	1
Boron	67		0.050	mg/L		11/21/22 05:46	11/22/22 14:00	1
Calcium	490		2.0	mg/L		11/21/22 05:46	11/22/22 14:00	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:19	1
Arsenic	0.0010		0.00050	mg/L		11/16/22 19:24	11/28/22 12:19	1
Barium	0.018		0.00050	mg/L		11/16/22 19:24	11/28/22 12:19	1
Cadmium	0.00019		0.00010	mg/L		11/16/22 19:24	11/28/22 12:19	1
Chromium	0.0010		0.0010	mg/L		11/16/22 19:24	11/28/22 12:19	1
Cobalt	0.0080		0.00050	mg/L		11/16/22 19:24	11/28/22 12:19	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:19	1
Molybdenum	0.0012		0.00050	mg/L		11/16/22 19:24	11/28/22 12:19	1
Selenium	0.12		0.00050	mg/L		11/16/22 19:24	11/28/22 12:19	1
Thallium	0.00046		0.00010	mg/L		11/16/22 19:24	11/28/22 12:19	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 13:58	11/18/22 17:37	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	15000	D2	100	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	7.1	H5	1.7	SU			11/17/22 14:25	1
Temperature (SM 4500 H+ B)	13.4	H5 T5	0.1	Degrees C			11/17/22 14:25	1

Client Sample ID: FC-CCR-MW86-1122

Lab Sample ID: 550-193770-10
Date Collected: 11/13/22 10:22
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	400	mg/L			11/17/22 02:04	200
Fluoride	ND	D1 D5	0.80	mg/L			11/17/22 01:46	2
Sulfate	8600	D2	400	mg/L			11/29/22 16:42	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 14:03	1
Lithium	0.29		0.020	mg/L		12/01/22 09:30	12/01/22 23:11	1
Boron	110	D2	0.10	mg/L		11/21/22 05:46	11/23/22 18:17	2
Calcium	500		2.0	mg/L		11/21/22 05:46	11/22/22 14:03	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW86-1122

Lab Sample ID: 550-193770-10
Date Collected: 11/13/22 10:22
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:21	1
Arsenic	**0.0012**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:21	1
Barium	**0.014**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:21	1
Cadmium	ND		0.00010	mg/L		11/16/22 19:24	11/28/22 12:21	1
Chromium	ND		0.0010	mg/L		11/16/22 19:24	11/28/22 12:21	1
Cobalt	**0.0053**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:21	1
Lead	ND		0.00050	mg/L		11/16/22 19:24	11/28/22 12:21	1
Molybdenum	**0.0012**		0.00050	mg/L		11/16/22 19:24	11/28/22 12:21	1
Selenium	**0.0026**		0.00050	mg/L		11/16/22 19:24	11/29/22 14:56	1
Thallium	**0.00080**		0.00010	mg/L		11/16/22 19:24	11/28/22 12:21	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 13:58	11/18/22 17:39	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**15000**	**D2**	100	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	**7.3**	**H5**	1.7	SU			11/21/22 14:56	1
Temperature (SM 4500 H+ B)	**11.6**	**H5 T5**	0.1	Degrees C			11/21/22 14:56	1

Client Sample ID: FC-CCR-FD01-1122

Lab Sample ID: 550-193770-11
Date Collected: 11/14/22 14:20
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**890**	**D2**	400	mg/L			11/17/22 03:06	200
Fluoride	ND	D1 D5	0.80	mg/L			11/17/22 02:38	2
Sulfate	**8800**	**D2**	400	mg/L			11/17/22 03:06	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 14:06	1
Lithium	**0.22**		0.020	mg/L		12/01/22 09:30	12/01/22 23:15	1
Boron	**68**		0.050	mg/L		11/21/22 05:46	11/22/22 14:06	1
Calcium	**500**		2.0	mg/L		11/21/22 05:46	11/22/22 14:06	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/18/22 16:34	11/28/22 13:10	1
Arsenic	**0.00084**		0.00050	mg/L		11/18/22 16:34	11/28/22 13:10	1
Barium	**0.017**		0.00050	mg/L		11/18/22 16:34	11/28/22 13:10	1
Cadmium	**0.00019**		0.00010	mg/L		11/18/22 16:34	11/28/22 13:10	1
Chromium	ND		0.0010	mg/L		11/18/22 16:34	11/28/22 13:10	1
Cobalt	**0.0074**		0.00050	mg/L		11/18/22 16:34	11/28/22 13:10	1
Lead	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 13:10	1
Molybdenum	**0.0013**		0.00050	mg/L		11/18/22 16:34	11/28/22 13:10	1
Selenium	**0.12**		0.00050	mg/L		11/18/22 16:34	11/28/22 13:10	1
Thallium	**0.00044**		0.00010	mg/L		11/18/22 16:34	11/28/22 13:10	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD01-1122

Lab Sample ID: 550-193770-11
Date Collected: 11/14/22 14:20
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 13:58	11/18/22 17:41	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	15000	D2	100	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			11/21/22 14:57	1
Temperature (SM 4500 H+ B)	11.6	H5 T5	0.1	Degrees C			11/21/22 14:57	1

Client Sample ID: FC-CCR-FD02-1122

Lab Sample ID: 550-193770-12
Date Collected: 11/13/22 13:11
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	400	mg/L			11/17/22 04:02	200
Fluoride	1.0	D1	0.80	mg/L			11/17/22 03:34	2
Sulfate	9000	D2	400	mg/L			11/17/22 04:02	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 14:09	1
Lithium	0.30		0.020	mg/L		12/01/22 09:30	12/01/22 23:19	1
Boron	110	D2	0.10	mg/L		11/21/22 05:46	11/23/22 18:20	2
Calcium	490		2.0	mg/L		11/21/22 05:46	11/22/22 14:09	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/18/22 16:34	11/28/22 13:12	1
Arsenic	0.0011		0.00050	mg/L		11/18/22 16:34	11/28/22 13:12	1
Barium	0.014		0.00050	mg/L		11/18/22 16:34	11/28/22 13:12	1
Cadmium	ND		0.00010	mg/L		11/18/22 16:34	11/28/22 13:12	1
Chromium	ND		0.0010	mg/L		11/18/22 16:34	11/28/22 13:12	1
Cobalt	0.0052		0.00050	mg/L		11/18/22 16:34	11/28/22 13:12	1
Lead	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 13:12	1
Molybdenum	0.0012		0.00050	mg/L		11/18/22 16:34	11/28/22 13:12	1
Selenium	0.0032		0.00050	mg/L		11/18/22 16:34	11/28/22 13:12	1
Thallium	0.00082		0.00010	mg/L		11/18/22 16:34	11/28/22 13:12	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 13:58	11/18/22 17:43	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	15000	D2	100	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			11/21/22 14:58	1
Temperature (SM 4500 H+ B)	12.7	H5 T5	0.1	Degrees C			11/21/22 14:58	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-288840/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288840

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/16/22 10:53	1
Fluoride	ND		0.40		mg/L			11/16/22 10:53	1
Sulfate	ND		2.0		mg/L			11/16/22 10:53	1

Lab Sample ID: LCS 550-288840/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288840

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.18		mg/L		105	90 - 110
Sulfate	20.0	21.1		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-288840/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288840

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.22		mg/L		106	90 - 110	1	20
Sulfate	20.0	21.1		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-193739-A-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288840

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	49		20.0	66.7		mg/L		90	80 - 120
Fluoride	ND		4.00	4.46		mg/L		103	80 - 120
Sulfate	110	E2 M3	20.0	119	E2 M3	mg/L		65	80 - 120

Lab Sample ID: 550-193739-A-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288840

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	49		20.0	67.5		mg/L		94	80 - 120	1	20
Fluoride	ND		4.00	4.68		mg/L		109	80 - 120	5	20
Sulfate	110	E2 M3	20.0	119	E2 M3	mg/L		68	80 - 120	1	20

Lab Sample ID: MB 550-288844/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/16/22 10:49	1
Fluoride	ND		0.40		mg/L			11/16/22 10:49	1
Sulfate	ND		2.0		mg/L			11/16/22 10:49	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-288844/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.7		mg/L		103	90 - 110
Fluoride	4.00	4.13		mg/L		103	90 - 110
Sulfate	20.0	20.3		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-288844/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.15		mg/L		104	90 - 110	0	20
Sulfate	20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-193743-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	ND		4.00	4.32		mg/L		102	80 - 120
Sulfate	110	M3	20.0	124	M3	mg/L		79	80 - 120

Lab Sample ID: 550-193743-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	520	D2	200	742	D2	mg/L		112	80 - 120

Lab Sample ID: 550-193743-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	ND		4.00	4.40		mg/L		104	80 - 120	2	20
Sulfate	110	M3	20.0	124	M3	mg/L		80	80 - 120	0	20

Lab Sample ID: 550-193743-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288844

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	520	D2	200	746	D2	mg/L		114	80 - 120	1	20

Lab Sample ID: MB 550-288953/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/17/22 11:41	1
Fluoride	ND		0.40		mg/L			11/17/22 11:41	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-288953/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0		mg/L			11/17/22 11:41	1

Lab Sample ID: LCS 550-288953/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.23		mg/L		106	90 - 110		
Sulfate			20.0	21.0		mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-288953/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.17		mg/L		104	90 - 110	1	20
Sulfate			20.0	20.5		mg/L		102	90 - 110	2	20

Lab Sample ID: 550-193753-K-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	910	D2	200	1110	D2 M3	mg/L		98	80 - 120		
Fluoride	ND	D1 D5	40.0	41.8	D1	mg/L		104	80 - 120		
Sulfate	390	D2	200	600	D2	mg/L		105	80 - 120		

Lab Sample ID: 550-193753-K-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288953

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	910	D2	200	1100	D2 M3	mg/L		93	80 - 120	1	20
Fluoride	ND	D1 D5	40.0	42.9	D1	mg/L		107	80 - 120	3	20
Sulfate	390	D2	200	598	D2	mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-289646/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289646

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/29/22 10:39	1
Fluoride	ND		0.40		mg/L			11/29/22 10:39	1
Sulfate	ND		2.0		mg/L			11/29/22 10:39	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-289646/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289646

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.7		mg/L		104	90 - 110
Fluoride	4.00	4.17		mg/L		104	90 - 110
Sulfate	20.0	21.1		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-289646/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289646

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.17		mg/L		104	90 - 110	0	20
Sulfate	20.0	21.4		mg/L		107	90 - 110	2	20

Lab Sample ID: 550-194147-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289646

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	110	M3	20.0	120	M3	mg/L		76	80 - 120
Fluoride	ND		4.00	4.41		mg/L		102	80 - 120
Sulfate	38		20.0	61.1		mg/L		115	80 - 120

Lab Sample ID: 550-194147-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289646

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	110	M3	20.0	121	M3	mg/L		78	80 - 120	0	20
Fluoride	ND		4.00	4.46		mg/L		104	80 - 120	1	20
Sulfate	38		20.0	61.3		mg/L		116	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-288846/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288990 — **Prep Batch: 288846**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/16/22 18:47	11/17/22 22:00	1
Boron	ND		0.050	mg/L		11/16/22 18:47	11/17/22 22:00	1
Calcium	ND		2.0	mg/L		11/16/22 18:47	11/17/22 22:00	1

Lab Sample ID: LCS 550-288846/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288990 — **Prep Batch: 288846**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.01		mg/L		101	85 - 115
Boron	1.00	0.985		mg/L		99	85 - 115
Calcium	21.0	21.3		mg/L		101	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: LCSD 550-288846/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288990 — **Prep Batch: 288846**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.00		mg/L		100	85 - 115	1	20
Boron			1.00	0.985		mg/L		98	85 - 115	0	20
Calcium			21.0	21.4		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-193735-J-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288990 — **Prep Batch: 288846**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium	ND		1.00	1.03		mg/L		103	70 - 130		
Boron	0.18		1.00	1.20		mg/L		103	70 - 130		
Calcium	160		21.0	175	M3	mg/L		79	70 - 130		

Lab Sample ID: 550-193735-J-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288990 — **Prep Batch: 288846**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.04		mg/L		104	70 - 130	1	20
Boron	0.18		1.00	1.20		mg/L		103	70 - 130	0	20
Calcium	160		21.0	174	M3	mg/L		76	70 - 130	0	20

Lab Sample ID: MB 550-289122/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289387 — **Prep Batch: 289122**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:46	11/22/22 13:12	1
Boron	ND		0.050		mg/L		11/21/22 05:46	11/22/22 13:12	1
Calcium	ND		2.0		mg/L		11/21/22 05:46	11/22/22 13:12	1

Lab Sample ID: LCS 550-289122/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289387 — **Prep Batch: 289122**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	1.03		mg/L		103	85 - 115		
Boron			1.00	0.963		mg/L		96	85 - 115		
Calcium			21.0	21.1		mg/L		100	85 - 115		

Lab Sample ID: LCSD 550-289122/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289387 — **Prep Batch: 289122**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.04		mg/L		104	85 - 115	0	20
Boron			1.00	0.976		mg/L		98	85 - 115	1	20
Calcium			21.0	21.2		mg/L		101	85 - 115	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-193772-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289387 — **Prep Batch: 289122**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.09		mg/L		109	70 - 130
Boron	9.3	M3	1.00	9.88	M3	mg/L		56	70 - 130
Calcium	460	M3	21.0	462	M3	mg/L		-8	70 - 130

Lab Sample ID: 550-193772-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289387 — **Prep Batch: 289122**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.09		mg/L		109	70 - 130	0	20
Boron	9.3	M3	1.00	9.86	M3	mg/L		54	70 - 130	0	20
Calcium	460	M3	21.0	456	M3	mg/L		-38	70 - 130	1	20

Lab Sample ID: MB 280-594888/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 594888**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020		mg/L		12/01/22 09:30	12/01/22 21:15	1

Lab Sample ID: LCS 280-594888/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 594888**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium			1.00	0.959		mg/L		96	90 - 112

Lab Sample ID: LCSD 280-594888/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 594888**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	0.961		mg/L		96	90 - 112	0	20

Lab Sample ID: 280-169238-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 594888**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	ND		1.00	0.990		mg/L		99	70 - 130

Lab Sample ID: 280-169238-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 594888**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	ND		1.00	0.977		mg/L		98	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-288849/1-A
Matrix: Water
Analysis Batch: 289502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 288849

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010		mg/L		11/16/22 19:24	11/28/22 11:21	1
Arsenic	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Barium	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Cadmium	ND		0.00010		mg/L		11/16/22 19:24	11/28/22 11:21	1
Chromium	ND		0.0010		mg/L		11/16/22 19:24	11/28/22 11:21	1
Cobalt	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Lead	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Molybdenum	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Selenium	ND		0.00050		mg/L		11/16/22 19:24	11/28/22 11:21	1
Thallium	ND		0.00010		mg/L		11/16/22 19:24	11/28/22 11:21	1

Lab Sample ID: LCS 550-288849/2-A
Matrix: Water
Analysis Batch: 289502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 288849

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			0.100	0.0977		mg/L		98	85 - 115		
Arsenic			0.100	0.0979		mg/L		98	85 - 115		
Barium			0.100	0.109		mg/L		109	85 - 115		
Cadmium			0.100	0.0942		mg/L		94	85 - 115		
Chromium			0.100	0.0982		mg/L		98	85 - 115		
Cobalt			0.100	0.100		mg/L		100	85 - 115		
Lead			0.100	0.0959		mg/L		96	85 - 115		
Molybdenum			0.100	0.0937		mg/L		94	85 - 115		
Selenium			0.100	0.0983		mg/L		98	85 - 115		
Thallium			0.100	0.0985		mg/L		99	85 - 115		

Lab Sample ID: LCSD 550-288849/3-A
Matrix: Water
Analysis Batch: 289502

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 288849

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony			0.100	0.102		mg/L		102	85 - 115	4	20
Arsenic			0.100	0.102		mg/L		102	85 - 115	4	20
Barium			0.100	0.113		mg/L		113	85 - 115	4	20
Cadmium			0.100	0.0985		mg/L		98	85 - 115	4	20
Chromium			0.100	0.103		mg/L		103	85 - 115	5	20
Cobalt			0.100	0.103		mg/L		103	85 - 115	3	20
Lead			0.100	0.102		mg/L		102	85 - 115	7	20
Molybdenum			0.100	0.0989		mg/L		99	85 - 115	5	20
Selenium			0.100	0.102		mg/L		102	85 - 115	3	20
Thallium			0.100	0.103		mg/L		103	85 - 115	4	20

Lab Sample ID: 550-193751-E-1-B MS
Matrix: Water
Analysis Batch: 289502

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 288849

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		0.100	0.106		mg/L		101	70 - 130		

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-193751-E-1-B MS
Matrix: Water
Analysis Batch: 289502

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 288849

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	ND		0.100	0.109		mg/L		109	70 - 130
Barium	0.11		0.100	0.212		mg/L		102	70 - 130
Cadmium	ND		0.100	0.0961		mg/L		96	70 - 130
Chromium	ND		0.100	0.0991		mg/L		99	70 - 130
Cobalt	ND		0.100	0.116		mg/L		105	70 - 130
Lead	ND		0.100	0.0919		mg/L		92	70 - 130
Molybdenum	0.27		0.100	0.339		mg/L		73	70 - 130
Selenium	ND		0.100	0.114		mg/L		104	70 - 130
Thallium	ND	R4	0.100	0.0951		mg/L		95	70 - 130

Lab Sample ID: 550-193751-E-1-C MSD
Matrix: Water
Analysis Batch: 289502

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 288849

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.109		mg/L		104	70 - 130	12	20
Arsenic	ND		0.100	0.115		mg/L		115	70 - 130	1	20
Barium	0.11		0.100	0.209		mg/L		99	70 - 130	5	20
Cadmium	ND		0.100	0.0984		mg/L		98	70 - 130	4	20
Chromium	ND		0.100	0.107		mg/L		107	70 - 130	6	20
Cobalt	ND		0.100	0.121		mg/L		110	70 - 130	4	20
Lead	ND		0.100	0.0973		mg/L		97	70 - 130	13	20
Molybdenum	0.27		0.100	0.356		mg/L		90	70 - 130	0	20
Selenium	ND		0.100	0.120		mg/L		110	70 - 130	14	20
Thallium	ND	R4	0.100	0.101		mg/L		101	70 - 130	22	20

Lab Sample ID: MB 550-289054/1-A
Matrix: Water
Analysis Batch: 289509

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 289054

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/18/22 16:34	11/28/22 12:53	1
Arsenic	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Barium	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Cadmium	ND		0.00010	mg/L		11/18/22 16:34	11/28/22 12:53	1
Chromium	ND		0.0010	mg/L		11/18/22 16:34	11/28/22 12:53	1
Cobalt	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Lead	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Molybdenum	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Selenium	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Thallium	ND		0.00010	mg/L		11/18/22 16:34	11/28/22 12:53	1

Lab Sample ID: LCS 550-289054/2-A
Matrix: Water
Analysis Batch: 289509

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 289054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0983		mg/L		98	85 - 115
Arsenic	0.100	0.0964		mg/L		96	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-289054/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	0.100	0.104		mg/L		104	85 - 115
Cadmium	0.100	0.0903		mg/L		90	85 - 115
Chromium	0.100	0.0953		mg/L		95	85 - 115
Cobalt	0.100	0.0964		mg/L		96	85 - 115
Lead	0.100	0.0955		mg/L		95	85 - 115
Molybdenum	0.100	0.0918		mg/L		92	85 - 115
Selenium	0.100	0.103		mg/L		103	85 - 115
Thallium	0.100	0.0992		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-289054/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.103		mg/L		103	85 - 115	5	20
Arsenic	0.100	0.0995		mg/L		100	85 - 115	3	20
Barium	0.100	0.112		mg/L		112	85 - 115	8	20
Cadmium	0.100	0.0966		mg/L		97	85 - 115	7	20
Chromium	0.100	0.0978		mg/L		98	85 - 115	3	20
Cobalt	0.100	0.0998		mg/L		100	85 - 115	4	20
Lead	0.100	0.100		mg/L		100	85 - 115	5	20
Molybdenum	0.100	0.0960		mg/L		96	85 - 115	4	20
Selenium	0.100	0.102		mg/L		102	85 - 115	1	20
Thallium	0.100	0.105		mg/L		105	85 - 115	5	20

Lab Sample ID: 550-193772-B-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.112		mg/L		112	70 - 130
Arsenic	0.00066		0.100	0.120		mg/L		120	70 - 130
Barium	0.016	M1	0.100	0.137		mg/L		121	70 - 130
Cadmium	0.00022		0.100	0.0968		mg/L		97	70 - 130
Chromium	ND		0.100	0.105		mg/L		104	70 - 130
Cobalt	0.13		0.100	0.226		mg/L		96	70 - 130
Lead	0.00060		0.100	0.0957		mg/L		95	70 - 130
Molybdenum	0.0030		0.100	0.111		mg/L		108	70 - 130
Selenium	0.0021	M1	0.100	0.145	M1	mg/L		143	70 - 130
Thallium	0.00031		0.100	0.0989		mg/L		99	70 - 130

Lab Sample ID: 550-193772-B-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.114		mg/L		114	70 - 130	2	20
Arsenic	0.00066		0.100	0.120		mg/L		119	70 - 130	0	20
Barium	0.016	M1	0.100	0.147	M1	mg/L		131	70 - 130	7	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-193772-B-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	0.00022		0.100	0.0989		mg/L		99	70 - 130	2	20
Chromium	ND		0.100	0.106		mg/L		106	70 - 130	2	20
Cobalt	0.13		0.100	0.226		mg/L		96	70 - 130	0	20
Lead	0.00060		0.100	0.100		mg/L		100	70 - 130	5	20
Molybdenum	0.0030		0.100	0.113		mg/L		110	70 - 130	2	20
Selenium	0.0021	M1	0.100	0.148	M1	mg/L		146	70 - 130	2	20
Thallium	0.00031		0.100	0.102		mg/L		102	70 - 130	4	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-288744/1-E — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/17/22 17:10	11/17/22 22:09	1

Lab Sample ID: MB 550-288933/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/17/22 17:10	11/17/22 21:09	1

Lab Sample ID: LCS 550-288933/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.00500	0.00455		mg/L		91	85 - 115		

Lab Sample ID: LCSD 550-288933/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			0.00500	0.00463		mg/L		93	85 - 115	2	20

Lab Sample ID: 550-193817-AF-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND	M2 R13	0.00500	0.000507	M2	mg/L		10	70 - 130		

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-193817-AF-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289047 — **Prep Batch: 288933**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	M2 R13	0.00500	0.00276	M2 R13	mg/L		55	70 - 130	138	20

Lab Sample ID: MB 550-289033/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289063 — **Prep Batch: 289033**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/18/22 13:58	11/18/22 16:55	1

Lab Sample ID: LCS 550-289033/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289063 — **Prep Batch: 289033**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.00500	0.00454		mg/L		91	85 - 115		

Lab Sample ID: LCSD 550-289033/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289063 — **Prep Batch: 289033**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			0.00500	0.00460		mg/L		92	85 - 115	1	20

Lab Sample ID: 550-193753-M-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289063 — **Prep Batch: 289033**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND		0.00500	0.00557		mg/L		111	70 - 130		

Lab Sample ID: 550-193753-M-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289063 — **Prep Batch: 289033**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00500	0.00548		mg/L		110	70 - 130	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-289060/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/18/22 18:55	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 550-289060/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	990		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-289060/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	968		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-193685-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1350		mg/L				6	10

Lab Sample ID: MB 550-289397/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289397

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/19/22 18:02	1

Lab Sample ID: LCS 550-289397/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289397

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	990		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-289397/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289397

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	982		mg/L		98	90 - 110	1	10

Lab Sample ID: 550-193770-6 DU — **Client Sample ID: FC-CCR-MW72-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289397

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	15000	D2		15400	D2	mg/L				0.9	10

Lab Sample ID: 550-193770-11 DU — **Client Sample ID: FC-CCR-FD01-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289397

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	15000	D2		14500	D2	mg/L				2	10

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-289422/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289422

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/23/22 18:16	1

Lab Sample ID: LCS 550-289422/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289422

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	982		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-289422/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289422

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	990		mg/L		99	90 - 110	1	10

Lab Sample ID: 550-193700-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289422

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1400			1420		mg/L				1	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-288919/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288919

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-288919/49 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288919

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: 550-193743-F-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288919

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6	H5		7.6	H5	SU				0.3	5
Temperature	12.8	H5		12.9	H5	Degrees C				0.8	

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-289225/1
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.6	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-289225/13
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		100.0	98.5 - 101.5		

Lab Sample ID: 550-193822-H-1 DU
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	H5		7.4	H5	SU				0.1	5
Temperature	14.9	H5		14.8	H5	Degrees C				0.7	

HPLC/IC

Analysis Batch: 288840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	300.0	
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	300.0	
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	300.0	
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	300.0	
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	300.0	
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	300.0	
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	300.0	
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	300.0	
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	300.0	
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	300.0	
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	300.0	
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	300.0	
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	300.0	
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	300.0	
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	300.0	
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	300.0	
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	300.0	
MB 550-288840/2	Method Blank	Total/NA	Water	300.0	
LCS 550-288840/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-288840/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193739-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
550-193739-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 288844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	300.0	
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	300.0	
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	300.0	
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	300.0	
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	300.0	
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	300.0	
MB 550-288844/2	Method Blank	Total/NA	Water	300.0	
LCS 550-288844/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-288844/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193743-F-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193743-F-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193743-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-193743-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 288953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-288953/2	Method Blank	Total/NA	Water	300.0	
LCS 550-288953/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-288953/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193753-K-4 MS	Matrix Spike	Total/NA	Water	300.0	
550-193753-K-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	300.0	
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 289646 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	300.0	
MB 550-289646/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289646/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289646/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-194147-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-194147-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Filtration Batch: 288744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-288744/1-E	Method Blank	Total/NA	Water	Filtration	

Prep Batch: 288846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	200.7	
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	200.7	
MB 550-288846/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-288846/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-288846/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193735-J-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-193735-J-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 288849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	200.8	
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	200.8	
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	200.8	
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	200.8	
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	200.8	
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	200.8	
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	200.8	
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	200.8	
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	200.8	
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	200.8	
MB 550-288849/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-288849/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-288849/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193751-E-1-B MS	Matrix Spike	Total/NA	Water	200.8	
550-193751-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 288933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	245.1	
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	245.1	
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	245.1	
MB 550-288744/1-E	Method Blank	Total/NA	Water	245.1	288744
MB 550-288933/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-288933/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-288933/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-193817-AF-1-D MS	Matrix Spike	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 288933 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193817-AF-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 288990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	200.7 Rev 4.4	288846
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	200.7 Rev 4.4	288846
MB 550-288846/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	288846
LCS 550-288846/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	288846
LCSD 550-288846/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	288846
550-193735-J-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	288846
550-193735-J-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	288846

Analysis Batch: 289023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	200.7 Rev 4.4	288846
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	200.7 Rev 4.4	288846

Prep Batch: 289033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	245.1	
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	245.1	
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	245.1	
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	245.1	
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	245.1	
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	245.1	
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	245.1	
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	245.1	
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	245.1	
MB 550-289033/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-289033/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-289033/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-193753-M-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-193753-M-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 289047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	245.1	288933
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	245.1	288933
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	245.1	288933
MB 550-288744/1-E	Method Blank	Total/NA	Water	245.1	288933
MB 550-288933/1-A	Method Blank	Total/NA	Water	245.1	288933
LCS 550-288933/2-A	Lab Control Sample	Total/NA	Water	245.1	288933
LCSD 550-288933/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	288933
550-193817-AF-1-D MS	Matrix Spike	Total/NA	Water	245.1	288933
550-193817-AF-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	288933

Prep Batch: 289054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	200.8	
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	200.8	
MB 550-289054/1-A	Method Blank	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 289054 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-289054/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-289054/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193772-B-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-193772-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 289063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	245.1	289033
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	245.1	289033
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	245.1	289033
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	245.1	289033
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	245.1	289033
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	245.1	289033
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	245.1	289033
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	245.1	289033
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	245.1	289033
MB 550-289033/1-A	Method Blank	Total/NA	Water	245.1	289033
LCS 550-289033/2-A	Lab Control Sample	Total/NA	Water	245.1	289033
LCSD 550-289033/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	289033
550-193753-M-1-A MS	Matrix Spike	Total/NA	Water	245.1	289033
550-193753-M-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	289033

Prep Batch: 289122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	200.7	
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	200.7	
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	200.7	
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	200.7	
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	200.7	
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	200.7	
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	200.7	
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	200.7	
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	200.7	
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	200.7	
MB 550-289122/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-289122/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-289122/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193772-A-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-193772-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 289387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	200.7 Rev 4.4	289122

Metals (Continued)

Analysis Batch: 289387 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	200.7 Rev 4.4	289122
MB 550-289122/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289122
LCS 550-289122/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289122
LCSD 550-289122/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289122
550-193772-A-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	289122
550-193772-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	289122

Analysis Batch: 289484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	200.7 Rev 4.4	289122

Analysis Batch: 289502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	200.8 LL	288849
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	200.8 LL	288849
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	200.8 LL	288849
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	200.8 LL	288849
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	200.8 LL	288849
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	200.8 LL	288849
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	200.8 LL	288849
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	200.8 LL	288849
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	200.8 LL	288849
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	200.8 LL	288849
MB 550-288849/1-A	Method Blank	Total/NA	Water	200.8 LL	288849
LCS 550-288849/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	288849
LCSD 550-288849/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	288849
550-193751-E-1-B MS	Matrix Spike	Total/NA	Water	200.8 LL	288849
550-193751-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	288849

Analysis Batch: 289509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	200.8 LL	289054
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	200.8 LL	289054
MB 550-289054/1-A	Method Blank	Total/NA	Water	200.8 LL	289054
LCS 550-289054/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	289054
LCSD 550-289054/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289054
550-193772-B-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	289054
550-193772-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	289054

Analysis Batch: 289656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	200.8 LL	288849
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	200.8 LL	288849
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	200.8 LL	288849

Prep Batch: 594888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	200.7	
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 594888 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	200.7	
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	200.7	
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	200.7	
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	200.7	
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	200.7	
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	200.7	
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	200.7	
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	200.7	
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	200.7	
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	200.7	
MB 280-594888/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-594888/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-594888/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-169238-A-1-E MS	Matrix Spike	Total/NA	Water	200.7	
280-169238-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 595411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	200.7 Rev 4.4	594888
MB 280-594888/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	594888
LCS 280-594888/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	594888
LCSD 280-594888/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	594888
280-169238-A-1-E MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	594888
280-169238-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	594888

General Chemistry

Analysis Batch: 288919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	SM 4500 H+ B	
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	SM 4500 H+ B	
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	SM 4500 H+ B	
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	SM 4500 H+ B	
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	SM 4500 H+ B	
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	SM 4500 H+ B	
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	SM 4500 H+ B	
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	SM 4500 H+ B	
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-288919/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-288919/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 288919 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193743-F-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 289060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-1	FC-CCR-MW66-1122	Total/NA	Water	SM 2540C	
550-193770-2	FC-CCR-MW68-1122	Total/NA	Water	SM 2540C	
550-193770-4	FC-CCR-MW70-1122	Total/NA	Water	SM 2540C	
550-193770-5	FC-CCR-MW71-1122	Total/NA	Water	SM 2540C	
MB 550-289060/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289060/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289060/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193685-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 289225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	SM 4500 H+ B	
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	SM 4500 H+ B	
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-193822-H-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 289397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-3	FC-CCR-MW69-1122	Total/NA	Water	SM 2540C	
550-193770-6	FC-CCR-MW72-1122	Total/NA	Water	SM 2540C	
550-193770-7	FC-CCR-MW73-1122	Total/NA	Water	SM 2540C	
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	SM 2540C	
550-193770-9	FC-CCR-MW84-1122	Total/NA	Water	SM 2540C	
550-193770-10	FC-CCR-MW86-1122	Total/NA	Water	SM 2540C	
550-193770-11	FC-CCR-FD01-1122	Total/NA	Water	SM 2540C	
550-193770-12	FC-CCR-FD02-1122	Total/NA	Water	SM 2540C	
MB 550-289397/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289397/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289397/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193770-6 DU	FC-CCR-MW72-1122	Total/NA	Water	SM 2540C	
550-193770-11 DU	FC-CCR-FD01-1122	Total/NA	Water	SM 2540C	

Analysis Batch: 289422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193770-8	FC-CCR-MW83-1122	Total/NA	Water	SM 2540C	
MB 550-289422/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289422/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289422/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193700-A-3 DU	Duplicate	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW66-1122

Lab Sample ID: 550-193770-1
Matrix: Water

Date Collected: 11/13/22 11:12
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/16/22 19:01
Total/NA	Analysis	300.0		200	288840	AS1	EET PHX	11/16/22 19:19
Total/NA	Prep	200.7			288846	ABA	EET PHX	11/16/22 18:47
Total/NA	Analysis	200.7 Rev 4.4		1	288990	CHS	EET PHX	11/17/22 23:11
Total/NA	Prep	200.7			288846	ABA	EET PHX	11/16/22 18:47
Total/NA	Analysis	200.7 Rev 4.4		2	289023	CHS	EET PHX	11/18/22 11:28
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 22:18
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 12:02
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289656	ARE	EET PHX	11/29/22 14:52
Total/NA	Prep	245.1			288933	ABA	EET PHX	11/17/22 17:10
Total/NA	Analysis	245.1		1	289047	SRR	EET PHX	11/17/22 21:55
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:17

Client Sample ID: FC-CCR-MW68-1122

Lab Sample ID: 550-193770-2
Matrix: Water

Date Collected: 11/13/22 16:10
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/16/22 20:33
Total/NA	Analysis	300.0		200	288840	AS1	EET PHX	11/16/22 20:51
Total/NA	Prep	200.7			288846	ABA	EET PHX	11/16/22 18:47
Total/NA	Analysis	200.7 Rev 4.4		1	288990	CHS	EET PHX	11/17/22 23:14
Total/NA	Prep	200.7			288846	ABA	EET PHX	11/16/22 18:47
Total/NA	Analysis	200.7 Rev 4.4		2	289023	CHS	EET PHX	11/18/22 11:31
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 22:22
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 12:04
Total/NA	Prep	245.1			288933	ABA	EET PHX	11/17/22 17:10
Total/NA	Analysis	245.1		1	289047	SRR	EET PHX	11/17/22 21:57
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:18

Client Sample ID: FC-CCR-MW69-1122

Lab Sample ID: 550-193770-3
Matrix: Water

Date Collected: 11/14/22 08:52
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/16/22 21:10
Total/NA	Analysis	300.0		200	288840	AS1	EET PHX	11/16/22 21:28

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW69-1122

Lab Sample ID: 550-193770-3
Matrix: Water
Date Collected: 11/14/22 08:52
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 13:37
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 22:26
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 12:06
Total/NA	Prep	245.1			288933	ABA	EET PHX	11/17/22 17:10
Total/NA	Analysis	245.1		1	289047	SRR	EET PHX	11/17/22 21:59
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:19

Client Sample ID: FC-CCR-MW70-1122

Lab Sample ID: 550-193770-4
Matrix: Water
Date Collected: 11/13/22 08:32
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/16/22 21:46
Total/NA	Analysis	300.0		200	288840	AS1	EET PHX	11/16/22 22:05
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 13:40
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 22:30
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 12:08
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:23
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:20

Client Sample ID: FC-CCR-MW71-1122

Lab Sample ID: 550-193770-5
Matrix: Water
Date Collected: 11/13/22 15:20
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288844	AS1	EET PHX	11/17/22 01:42
Total/NA	Analysis	300.0		200	288844	AS1	EET PHX	11/17/22 02:10
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 13:43
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 22:34
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 12:11
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:29

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW71-1122 — Lab Sample ID: 550-193770-5

Date Collected: 11/13/22 15:20 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 ¹
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:21

Client Sample ID: FC-CCR-MW72-1122 — Lab Sample ID: 550-193770-6

Date Collected: 11/13/22 14:33 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/16/22 22:23
Total/NA	Analysis	300.0		200	288840	AS1	EET PHX	11/16/22 22:42
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 13:52
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289484	CHS	EET PHX	11/23/22 18:14
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 22:38
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 12:13
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:31
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:22

Client Sample ID: FC-CCR-MW73-1122 — Lab Sample ID: 550-193770-7

Date Collected: 11/14/22 11:53 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/16/22 23:00
Total/NA	Analysis	300.0		200	288840	AS1	EET PHX	11/16/22 23:18
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 13:54
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 22:58
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 12:15
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:33
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:23

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW83-1122

Lab Sample ID: 550-193770-8
Matrix: Water
Date Collected: 11/14/22 10:38
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/17/22 00:32
Total/NA	Analysis	300.0		200	289646	AS1	EET PHX	11/29/22 15:46
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 13:57
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 23:02
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 12:17
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289656	ARE	EET PHX	11/29/22 14:54
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:35
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 [1]
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:24

Client Sample ID: FC-CCR-MW84-1122

Lab Sample ID: 550-193770-9
Matrix: Water
Date Collected: 11/14/22 09:42
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/17/22 01:09
Total/NA	Analysis	300.0		200	288840	AS1	EET PHX	11/17/22 01:27
Total/NA	Analysis	300.0		200	289646	AS1	EET PHX	11/29/22 16:14
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 14:00
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 23:07
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 12:19
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:37
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:25

Client Sample ID: FC-CCR-MW86-1122

Lab Sample ID: 550-193770-10
Matrix: Water
Date Collected: 11/13/22 10:22
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288840	AS1	EET PHX	11/17/22 01:46
Total/NA	Analysis	300.0		200	288840	AS1	EET PHX	11/17/22 02:04
Total/NA	Analysis	300.0		200	289646	AS1	EET PHX	11/29/22 16:42

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW86-1122

Lab Sample ID: 550-193770-10
Date Collected: 11/13/22 10:22
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 14:03
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		2	289484	CHS	EET PHX	11/23/22 18:17
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 23:11
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289502	ARE	EET PHX	11/28/22 12:21
Total/NA	Prep	200.8			288849	ABA	EET PHX	11/16/22 19:24
Total/NA	Analysis	200.8 LL		1	289656	ARE	EET PHX	11/29/22 14:56
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:39
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 14:56

Client Sample ID: FC-CCR-FD01-1122

Lab Sample ID: 550-193770-11
Date Collected: 11/14/22 14:20
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288844	AS1	EET PHX	11/17/22 02:38
Total/NA	Analysis	300.0		200	288844	AS1	EET PHX	11/17/22 03:06
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 14:06
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 23:15
Total/NA	Prep	200.8			289054	ABA	EET PHX	11/18/22 16:34
Total/NA	Analysis	200.8 LL		1	289509	ARE	EET PHX	11/28/22 13:10
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:41
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 14:57

Client Sample ID: FC-CCR-FD02-1122

Lab Sample ID: 550-193770-12
Date Collected: 11/13/22 13:11
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288844	AS1	EET PHX	11/17/22 03:34
Total/NA	Analysis	300.0		200	288844	AS1	EET PHX	11/17/22 04:02
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 14:09
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		2	289484	CHS	EET PHX	11/23/22 18:20

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-FD02-1122

Date Collected: 11/13/22 13:11
Date Received: 11/16/22 14:18

Lab Sample ID: 550-193770-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 23:19
Total/NA	Prep	200.8			289054	ABA	EET PHX	11/18/22 16:34
Total/NA	Analysis	200.8 LL		1	289509	ARE	EET PHX	11/28/22 13:12
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:43
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 14:58

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	05-31-23
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22 *
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-01-24
Kansas	NELAP	E-10166	04-30-23
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Louisiana (All)	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-23
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-23
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-23
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	09-30-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-23
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-23
Wisconsin	State	999615430	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193770-1
SDG: APS Four Corners Power Plant (URS)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

193770

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			
	TAT if different from Below _____			
	☑ 2 weeks			
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (URS)	☐ 2 days			
PO #: 100617121	☐ 1 day			

550-193770 Chain of Custody

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
-1	FC-CCR-MW66-1122	11/13/2022	11:12	G	W	2	N	N	X	X	X	X	X	X	Low Flow
-2	FC-CCR-MW68-1122	11/13/2022	16:10	G	W	2	N	N	X	X	X	X	X	X	"
-3	FC-CCR-MW69-1122	11/14/2022	8:52	G	W	2	N	N	X	X	X	X	X	X	"
-4	FC-CCR-MW70-1122	11/13/2022	8:32	G	W	2	N	N	X	X	X	X	X	X	"
-5	FC-CCR-MW71-1122	11/13/2022	15:20	G	W	2	N	N	X	X	X	X	X	X	"
-6	FC-CCR-MW72-1122	11/13/2022	14:33	G	W	2	N	N	X	X	X	X	X	X	"
-7	FC-CCR-MW73-1122	11/14/2022	11:53	G	W	2	N	N	X	X	X	X	X	X	"
-8	FC-CCR-MW83-1122	11/14/2022	10:38	G	W	2	N	N	X	X	X	X	X	X	"
-9	FC-CCR-MW84-1122	11/14/2022	9:42	G	W	2	N	N	X	X	X	X	X	X	"
-10	FC-CCR-MW86-1122	11/13/2022	10:22	G	W	2	N	N	X	X	X	X	X	X	"
-11	FC-CCR-FD01-1122	11/14/2022	14:20	G	W	2	N	N	X	X	X	X	X	X	"
-12	FC-CCR-FD02-1122	11/13/2022	13:11	G	W	2	N	N	X	X	X	X	X	X	"
	Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	1	1	4	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

1.1°C, 1.4°C 1cf CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WSP	11/16/22@08:00	[signature]	A-HotShot	11-16-2022 7:58 AM
[signature]	A-HotShot	11-16-2022			
		14:18	Received in Laboratory by: [signature]	Company: TETA-PHX	11/16/22 1418

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No: 550-35411.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-193770-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW66-1122 (550-193770-1)	11/13/22	11:12 Arizona		Water			X	1	AZ Sample
FC-CCR-MW68-1122 (550-193770-2)	11/13/22	16:10 Arizona		Water			X	1	AZ Sample
FC-CCR-MW69-1122 (550-193770-3)	11/14/22	08:52 Arizona		Water			X	1	AZ Sample
FC-CCR-MW70-1122 (550-193770-4)	11/13/22	08:32 Arizona		Water			X	1	AZ Sample
FC-CCR-MW71-1122 (550-193770-5)	11/13/22	15:20 Arizona		Water			X	1	AZ Sample
FC-CCR-MW72-1122 (550-193770-6)	11/13/22	14:33 Arizona		Water			X	1	AZ Sample
FC-CCR-MW73-1122 (550-193770-7)	11/14/22	11:53 Arizona		Water			X	1	AZ Sample
FC-CCR-MW83-1122 (550-193770-8)	11/14/22	10:38 Arizona		Water			X	1	AZ Sample
FC-CCR-MW84-1122 (550-193770-9)	11/14/22	09:42 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature] 11-17-22	Date/Time: 14:45	Company: EETSW	Received by: Fedex	Date/Time:	Company
Relinquished by: Fedex	Date/Time:	Company	Received by: [signature]	Date/Time: 11/18/22 1030	Company: ETA/DGW
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: ☑ Yes Δ No	Custody Seal No.: 1882802		Cooler Temperature(s) °C and Other Remarks: 0.3 IRR CFO.0		

Ver: 06/08/2021

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No: 550-35411.2
Client Contact: Shipping/Receiving	Phone	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-193770-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
FC-CCR-MW86-1122 (550-193770-10)	11/13/22	10:22 Arizona		Water			X	1	AZ Sample
FC-CCR-FD01-1122 (550-193770-11)	11/14/22	14:20 Arizona		Water			X	1	AZ Sample
FC-CCR-FD02-1122 (550-193770-12)	11/13/22	13:11 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Emel 11-17-22	Date/Time: 14:45	Company: EETSW	Received by: FedEx	Date/Time:	Company
Relinquished by: FedR	Date/Time:	Company	Received by: [signature]	Date/Time: 11/18/22 1030	Company: EA/Gen
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193770-1
SDG Number: APS Four Corners Power Plant (URS)

Login Number: 193770
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193770-1
SDG Number: APS Four Corners Power Plant (URS)

Login Number: 193770
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 11/18/22 04:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 12/7/2022 5:39:32 AM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Four Corners Power Plant (Multiunit)

JOB NUMBER

550-193772-1

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix AZ 85040

See page two for job notes and contact information.

my EOL

Eurofins Phoenix

Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization

Generated
12/7/2022 5:39:32 AM

Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.

Metals

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-193772-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-193772-1

Comments
No additional comments.

Receipt
The samples were received on 11/16/2022 2:18 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3º C and 2.1º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193772-1
SDG: APS Four Corners Power Plant (Multiunit)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-193772-1	FC-CCR-MW52-1122	Water	11/10/22 09:58	11/16/22 14:18
550-193772-2	FC-CCR-MW61-1122	Water	11/11/22 09:25	11/16/22 14:18
550-193772-3	FC-CCR-MW75-1122	Water	11/11/22 10:33	11/16/22 14:18
550-193772-4	FC-CCR-FD03-1122	Water	11/10/22 16:08	11/16/22 14:18

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193772-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW52-1122 — Lab Sample ID: 550-193772-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	9.3	M3	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.13		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0030		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW61-1122 — Lab Sample ID: 550-193772-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	340	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.3	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3700	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.42		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	41		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	540		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	150		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	21		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100	D2	2.0		mg/L	4		200.7 Rev 4.4	Total/NA
Arsenic	0.00059		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.019		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.0011		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.030		0.00050		mg/L	1		200.8 LL	Total/NA
Lead	0.0011		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.11		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.00093		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00022		0.00010		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	97		6.0		mg/L	1		SM 2320B	Total/NA
Alkalinity, Phenolphthalein	16		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	64		6.0		mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	33		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5900	D2	100		mg/L	1		SM 2540C	Total/NA
pH	8.6	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW75-1122 — Lab Sample ID: 550-193772-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	310	D2	4.0		mg/L	2		300.0	Total/NA
Fluoride	1.3	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	4700	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.42		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	24		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	22		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1400	D2	2.0		mg/L	4		200.7 Rev 4.4	Total/NA
Arsenic	0.00051		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.021		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.0016		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.057		0.00050		mg/L	1		200.8 LL	Total/NA
Lead	0.0031		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.18		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0044		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00022		0.00010		mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193772-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW75-1122 (Continued) — Lab Sample ID: 550-193772-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Alkalinity as CaCO3	100		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	100		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	8.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.8	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD03-1122 — Lab Sample ID: 550-193772-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	11		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.13		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0028		0.00050		mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193772-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW52-1122

Lab Sample ID: 550-193772-1
Date Collected: 11/10/22 09:58
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.3	M3	0.050	mg/L		11/21/22 05:46	11/22/22 13:26	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.13		0.00050	mg/L		11/18/22 16:34	11/28/22 12:44	1
Molybdenum	0.0030		0.00050	mg/L		11/18/22 16:34	11/28/22 12:44	1

Client Sample ID: FC-CCR-MW61-1122

Lab Sample ID: 550-193772-2
Date Collected: 11/11/22 09:25
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	340	D2	4.0	mg/L			11/16/22 21:31	2
Fluoride	1.3	D1	0.80	mg/L			11/16/22 21:31	2
Sulfate	3700	D2	400	mg/L			11/16/22 21:59	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:46	11/22/22 13:29	1
Lithium	0.42		0.020	mg/L		12/01/22 09:30	12/01/22 23:23	1
Boron	41		0.050	mg/L		11/21/22 05:46	11/22/22 13:29	1
Calcium	540		2.0	mg/L		11/21/22 05:46	11/22/22 13:29	1
Magnesium	150		2.0	mg/L		11/21/22 05:46	11/22/22 13:29	1
Potassium	21		0.50	mg/L		11/21/22 05:46	11/22/22 13:29	1
Sodium	1100	D2	2.0	mg/L		11/21/22 05:46	11/23/22 18:09	4

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/18/22 16:34	11/28/22 13:04	1
Arsenic	0.00059		0.00050	mg/L		11/18/22 16:34	11/28/22 13:04	1
Barium	0.019		0.00050	mg/L		11/18/22 16:34	11/28/22 13:04	1
Cadmium	0.0011		0.00010	mg/L		11/18/22 16:34	11/28/22 13:04	1
Chromium	ND		0.0010	mg/L		11/18/22 16:34	11/28/22 13:04	1
Cobalt	0.030		0.00050	mg/L		11/18/22 16:34	11/28/22 13:04	1
Lead	0.0011		0.00050	mg/L		11/18/22 16:34	11/28/22 13:04	1
Molybdenum	0.11		0.00050	mg/L		11/18/22 16:34	11/28/22 13:04	1
Selenium	0.00093		0.00050	mg/L		11/18/22 16:34	11/28/22 13:04	1
Thallium	0.00022		0.00010	mg/L		11/18/22 16:34	11/28/22 13:04	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 13:58	11/18/22 17:45	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	97		6.0	mg/L			11/23/22 19:49	1
Alkalinity, Phenolphthalein (SM 2320B)	16		6.0	mg/L			11/23/22 19:49	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	64		6.0	mg/L			11/23/22 19:49	1

Client Sample ID: FC-CCR-MW61-1122 — Lab Sample ID: 550-193772-2

Date Collected: 11/11/22 09:25
Date Received: 11/16/22 14:18
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3 (SM 2320B)	33		6.0		mg/L			11/23/22 19:49	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/23/22 19:49	1
Total Dissolved Solids (SM 2540C)	5900	D2	100		mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	8.6	H5	1.7		SU			11/21/22 15:04	1
Temperature (SM 4500 H+ B)	12.0	H5 T5	0.1		Degrees C			11/21/22 15:04	1

Client Sample ID: FC-CCR-MW75-1122 — Lab Sample ID: 550-193772-3

Date Collected: 11/11/22 10:33
Date Received: 11/16/22 14:18
Matrix: Water

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310	D2	4.0		mg/L			11/16/22 22:27	2
Fluoride	1.3	D1	0.80		mg/L			11/16/22 22:27	2
Sulfate	4700	D2	400		mg/L			11/16/22 22:55	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:46	11/22/22 13:32	1
Lithium	0.42		0.020		mg/L		12/01/22 09:30	12/01/22 23:27	1
Boron	24		0.050		mg/L		11/21/22 05:46	11/22/22 13:32	1
Calcium	480		2.0		mg/L		11/21/22 05:46	11/22/22 13:32	1
Magnesium	250		2.0		mg/L		11/21/22 05:46	11/22/22 13:32	1
Potassium	22		0.50		mg/L		11/21/22 05:46	11/22/22 13:32	1
Sodium	1400	D2	2.0		mg/L		11/21/22 05:46	11/23/22 18:11	4

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010		mg/L		11/18/22 16:34	11/28/22 13:06	1
Arsenic	0.00051		0.00050		mg/L		11/18/22 16:34	11/28/22 13:06	1
Barium	0.021		0.00050		mg/L		11/18/22 16:34	11/28/22 13:06	1
Cadmium	0.0016		0.00010		mg/L		11/18/22 16:34	11/28/22 13:06	1
Chromium	ND		0.0010		mg/L		11/18/22 16:34	11/28/22 13:06	1
Cobalt	0.057		0.00050		mg/L		11/18/22 16:34	11/28/22 13:06	1
Lead	0.0031		0.00050		mg/L		11/18/22 16:34	11/28/22 13:06	1
Molybdenum	0.18		0.00050		mg/L		11/18/22 16:34	11/28/22 13:06	1
Selenium	0.0044		0.00050		mg/L		11/18/22 16:34	11/28/22 13:06	1
Thallium	0.00022		0.00010		mg/L		11/18/22 16:34	11/28/22 13:06	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/18/22 13:58	11/18/22 17:47	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	100		6.0		mg/L			11/23/22 19:54	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0		mg/L			11/23/22 19:54	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	100		6.0		mg/L			11/23/22 19:54	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193772-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW75-1122

Lab Sample ID: 550-193772-3
Date Collected: 11/11/22 10:33
Matrix: Water
Date Received: 11/16/22 14:18

General Chemistry (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/23/22 19:54	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/23/22 19:54	1
Total Dissolved Solids (SM 2540C)	**7000**	**D2**	100		mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	**8.3**	**H5**	1.7		SU			11/21/22 15:05	1
Temperature (SM 4500 H+ B)	**10.8**	**H5 T5**	0.1		Degrees C			11/21/22 15:05	1

Client Sample ID: FC-CCR-FD03-1122

Lab Sample ID: 550-193772-4
Date Collected: 11/10/22 16:08
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	**11**		0.050		mg/L		11/21/22 05:46	11/22/22 13:35	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.13**		0.00050		mg/L		11/18/22 16:34	11/28/22 13:08	1
Molybdenum	**0.0028**		0.00050		mg/L		11/18/22 16:34	11/28/22 13:08	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-288841/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/16/22 11:16	1
Fluoride	ND		0.40		mg/L			11/16/22 11:16	1
Sulfate	ND		2.0		mg/L			11/16/22 11:16	1

Lab Sample ID: LCS 550-288841/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	4.24		mg/L		106	90 - 110		
Sulfate			20.0	20.5		mg/L		103	90 - 110		

Lab Sample ID: LCSD 550-288841/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.19		mg/L		105	90 - 110	1	20
Sulfate			20.0	20.5		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-193741-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride	ND		4.00	4.43		mg/L		106	80 - 120		

Lab Sample ID: 550-193741-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	650	D2	200	859	D2	mg/L		103	80 - 120		
Sulfate	130	D2	200	345	D2	mg/L		106	80 - 120		

Lab Sample ID: 550-193741-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	ND		4.00	4.52		mg/L		108	80 - 120	2	20

Lab Sample ID: 550-193741-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	650	D2	200	860	D2	mg/L		104	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-193741-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	130	D2	200	346	D2	mg/L		107	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-289122/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289387 — **Prep Batch: 289122**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:46	11/22/22 13:12	1
Boron	ND		0.050		mg/L		11/21/22 05:46	11/22/22 13:12	1
Calcium	ND		2.0		mg/L		11/21/22 05:46	11/22/22 13:12	1
Magnesium	ND		2.0		mg/L		11/21/22 05:46	11/22/22 13:12	1
Potassium	ND		0.50		mg/L		11/21/22 05:46	11/22/22 13:12	1
Sodium	ND		0.50		mg/L		11/21/22 05:46	11/22/22 13:12	1

Lab Sample ID: LCS 550-289122/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289387 — **Prep Batch: 289122**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.03		mg/L		103	85 - 115
Boron	1.00	0.963		mg/L		96	85 - 115
Calcium	21.0	21.1		mg/L		100	85 - 115
Magnesium	21.0	20.7		mg/L		99	85 - 115
Potassium	20.0	19.1		mg/L		95	85 - 115
Sodium	20.0	19.9		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-289122/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289387 — **Prep Batch: 289122**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.04		mg/L		104	85 - 115	0	20
Boron	1.00	0.976		mg/L		98	85 - 115	1	20
Calcium	21.0	21.2		mg/L		101	85 - 115	1	20
Magnesium	21.0	20.8		mg/L		99	85 - 115	0	20
Potassium	20.0	19.2		mg/L		96	85 - 115	1	20
Sodium	20.0	20.0		mg/L		100	85 - 115	0	20

Lab Sample ID: 550-193772-1 MS — **Client Sample ID: FC-CCR-MW52-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289387 — **Prep Batch: 289122**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	9.3	M3	1.00	9.88	M3	mg/L		56	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-193772-1 MSD — **Client Sample ID: FC-CCR-MW52-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289387 — **Prep Batch: 289122**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	9.3	M3	1.00	9.86	M3	mg/L		54	70 - 130	0	20

Lab Sample ID: MB 280-594888/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 594888**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020		mg/L		12/01/22 09:30	12/01/22 21:15	1

Lab Sample ID: LCS 280-594888/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 594888**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.959		mg/L		96	90 - 112		

Lab Sample ID: LCSD 280-594888/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 594888**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	0.961		mg/L		96	90 - 112	0	20

Lab Sample ID: 280-169238-A-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 594888**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	ND		1.00	0.990		mg/L		99	70 - 130		

Lab Sample ID: 280-169238-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 594888**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	ND		1.00	0.977		mg/L		98	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-289054/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010		mg/L		11/18/22 16:34	11/28/22 12:53	1
Arsenic	ND		0.00050		mg/L		11/18/22 16:34	11/28/22 12:53	1
Barium	ND		0.00050		mg/L		11/18/22 16:34	11/28/22 12:53	1
Cadmium	ND		0.00010		mg/L		11/18/22 16:34	11/28/22 12:53	1
Chromium	ND		0.0010		mg/L		11/18/22 16:34	11/28/22 12:53	1
Cobalt	ND		0.00050		mg/L		11/18/22 16:34	11/28/22 12:53	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-289054/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Molybdenum	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Selenium	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Thallium	ND		0.00010	mg/L		11/18/22 16:34	11/28/22 12:53	1

Lab Sample ID: LCS 550-289054/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0983		mg/L		98	85 - 115
Arsenic	0.100	0.0964		mg/L		96	85 - 115
Barium	0.100	0.104		mg/L		104	85 - 115
Cadmium	0.100	0.0903		mg/L		90	85 - 115
Chromium	0.100	0.0953		mg/L		95	85 - 115
Cobalt	0.100	0.0964		mg/L		96	85 - 115
Lead	0.100	0.0955		mg/L		95	85 - 115
Molybdenum	0.100	0.0918		mg/L		92	85 - 115
Selenium	0.100	0.103		mg/L		103	85 - 115
Thallium	0.100	0.0992		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-289054/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.103		mg/L		103	85 - 115	5	20
Arsenic	0.100	0.0995		mg/L		100	85 - 115	3	20
Barium	0.100	0.112		mg/L		112	85 - 115	8	20
Cadmium	0.100	0.0966		mg/L		97	85 - 115	7	20
Chromium	0.100	0.0978		mg/L		98	85 - 115	3	20
Cobalt	0.100	0.0998		mg/L		100	85 - 115	4	20
Lead	0.100	0.100		mg/L		100	85 - 115	5	20
Molybdenum	0.100	0.0960		mg/L		96	85 - 115	4	20
Selenium	0.100	0.102		mg/L		102	85 - 115	1	20
Thallium	0.100	0.105		mg/L		105	85 - 115	5	20

Lab Sample ID: 550-193772-1 MS — **Client Sample ID: FC-CCR-MW52-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.13		0.100	0.226		mg/L		96	70 - 130
Molybdenum	0.0030		0.100	0.111		mg/L		108	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-193772-1 MSD — **Client Sample ID: FC-CCR-MW52-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.13		0.100	0.226		mg/L		96	70 - 130	0	20
Molybdenum	0.0030		0.100	0.113		mg/L		110	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-289033/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289063 — **Prep Batch: 289033**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/18/22 13:58	11/18/22 16:55	1

Lab Sample ID: LCS 550-289033/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289063 — **Prep Batch: 289033**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.00500	0.00454		mg/L		91	85 - 115		

Lab Sample ID: LCSD 550-289033/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289063 — **Prep Batch: 289033**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			0.00500	0.00460		mg/L		92	85 - 115	1	20

Lab Sample ID: 550-193753-M-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289063 — **Prep Batch: 289033**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	ND		0.00500	0.00557		mg/L		111	70 - 130		

Lab Sample ID: 550-193753-M-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289063 — **Prep Batch: 289033**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00500	0.00548		mg/L		110	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-289437/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 17:56	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			11/23/22 17:56	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 17:56	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-289437/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 17:56	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 17:56	1

Lab Sample ID: LCS 550-289437/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	270		mg/L		108	90 - 110		

Lab Sample ID: LCSD 550-289437/17 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	244		mg/L		97	90 - 110	10	20

Lab Sample ID: 550-193817-AB-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	150			151		mg/L				0	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Bicarbonate Alkalinity as CaCO3	150			151		mg/L				0	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-289060/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/18/22 18:55	1

Lab Sample ID: LCS 550-289060/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	990		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-289060/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	968		mg/L		97	90 - 110	2	10

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 550-193591-B-4 DU
Matrix: Water
Analysis Batch: 289060

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	5400	D2		5410	D2	mg/L				NC	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-289225/13
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		100.0	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-289225/25
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: 550-193897-A-1 DU
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.2	H5		7.2	H5	SU				0.1	5
Temperature	13.4	H5		13.4	H5	Degrees C				0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193772-1
SDG: APS Four Corners Power Plant (Multiunit)

HPLC/IC

Analysis Batch: 288841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	300.0	
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	300.0	
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	300.0	
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	300.0	
MB 550-288841/2	Method Blank	Total/NA	Water	300.0	
LCS 550-288841/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-288841/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193741-F-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193741-F-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193741-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-193741-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 289033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	245.1	
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	245.1	
MB 550-289033/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-289033/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-289033/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-193753-M-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-193753-M-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Prep Batch: 289054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-1	FC-CCR-MW52-1122	Total/NA	Water	200.8	
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	200.8	
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	200.8	
550-193772-4	FC-CCR-FD03-1122	Total/NA	Water	200.8	
MB 550-289054/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-289054/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-289054/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193772-1 MS	FC-CCR-MW52-1122	Total/NA	Water	200.8	
550-193772-1 MSD	FC-CCR-MW52-1122	Total/NA	Water	200.8	

Analysis Batch: 289063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	245.1	289033
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	245.1	289033
MB 550-289033/1-A	Method Blank	Total/NA	Water	245.1	289033
LCS 550-289033/2-A	Lab Control Sample	Total/NA	Water	245.1	289033
LCSD 550-289033/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	289033
550-193753-M-1-A MS	Matrix Spike	Total/NA	Water	245.1	289033
550-193753-M-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	289033

Prep Batch: 289122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-1	FC-CCR-MW52-1122	Total/NA	Water	200.7	
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	200.7	
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 289122 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-4	FC-CCR-FD03-1122	Total/NA	Water	200.7	
MB 550-289122/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-289122/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-289122/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193772-1 MS	FC-CCR-MW52-1122	Total/NA	Water	200.7	
550-193772-1 MSD	FC-CCR-MW52-1122	Total/NA	Water	200.7	

Analysis Batch: 289387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-1	FC-CCR-MW52-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193772-4	FC-CCR-FD03-1122	Total/NA	Water	200.7 Rev 4.4	289122
MB 550-289122/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289122
LCS 550-289122/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289122
LCSD 550-289122/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289122
550-193772-1 MS	FC-CCR-MW52-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193772-1 MSD	FC-CCR-MW52-1122	Total/NA	Water	200.7 Rev 4.4	289122

Analysis Batch: 289484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	200.7 Rev 4.4	289122
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	200.7 Rev 4.4	289122

Analysis Batch: 289509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-1	FC-CCR-MW52-1122	Total/NA	Water	200.8 LL	289054
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	200.8 LL	289054
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	200.8 LL	289054
550-193772-4	FC-CCR-FD03-1122	Total/NA	Water	200.8 LL	289054
MB 550-289054/1-A	Method Blank	Total/NA	Water	200.8 LL	289054
LCS 550-289054/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	289054
LCSD 550-289054/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289054
550-193772-1 MS	FC-CCR-MW52-1122	Total/NA	Water	200.8 LL	289054
550-193772-1 MSD	FC-CCR-MW52-1122	Total/NA	Water	200.8 LL	289054

Prep Batch: 594888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	200.7	
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	200.7	
MB 280-594888/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-594888/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-594888/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-169238-A-1-E MS	Matrix Spike	Total/NA	Water	200.7	
280-169238-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 595411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	200.7 Rev 4.4	594888
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	200.7 Rev 4.4	594888
MB 280-594888/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	594888

Metals (Continued)

Analysis Batch: 595411 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-594888/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	594888
LCSD 280-594888/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	594888
280-169238-A-1-E MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	594888
280-169238-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	594888

General Chemistry

Analysis Batch: 289060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	SM 2540C	
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	SM 2540C	
MB 550-289060/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289060/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289060/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193591-B-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 289225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	SM 4500 H+ B	
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-193897-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 289437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193772-2	FC-CCR-MW61-1122	Total/NA	Water	SM 2320B	
550-193772-3	FC-CCR-MW75-1122	Total/NA	Water	SM 2320B	
MB 550-289437/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-289437/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-289437/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-193817-AB-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193772-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW52-1122 — Lab Sample ID: 550-193772-1

Date Collected: 11/10/22 09:58 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 13:26
Total/NA	Prep	200.8			289054	ABA	EET PHX	11/18/22 16:34
Total/NA	Analysis	200.8 LL		1	289509	ARE	EET PHX	11/28/22 12:44

Client Sample ID: FC-CCR-MW61-1122 — Lab Sample ID: 550-193772-2

Date Collected: 11/11/22 09:25 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288841	AS1	EET PHX	11/16/22 21:31
Total/NA	Analysis	300.0		200	288841	AS1	EET PHX	11/16/22 21:59
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 13:29
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		4	289484	CHS	EET PHX	11/23/22 18:09
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 23:23
Total/NA	Prep	200.8			289054	ABA	EET PHX	11/18/22 16:34
Total/NA	Analysis	200.8 LL		1	289509	ARE	EET PHX	11/28/22 13:04
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:45
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 19:49
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:04

Client Sample ID: FC-CCR-MW75-1122 — Lab Sample ID: 550-193772-3

Date Collected: 11/11/22 10:33 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288841	AS1	EET PHX	11/16/22 22:27
Total/NA	Analysis	300.0		200	288841	AS1	EET PHX	11/16/22 22:55
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 13:32
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		4	289484	CHS	EET PHX	11/23/22 18:11
Total/NA	Prep	200.7			594888	PFM	EET DEN	12/01/22 09:30
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 23:27
Total/NA	Prep	200.8			289054	ABA	EET PHX	11/18/22 16:34
Total/NA	Analysis	200.8 LL		1	289509	ARE	EET PHX	11/28/22 13:06
Total/NA	Prep	245.1			289033	SRR	EET PHX	11/18/22 13:58
Total/NA	Analysis	245.1		1	289063	SRR	EET PHX	11/18/22 17:47
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 19:54

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193772-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW75-1122

Lab Sample ID: 550-193772-3
Date Collected: 11/11/22 10:33
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:05

Client Sample ID: FC-CCR-FD03-1122

Lab Sample ID: 550-193772-4
Date Collected: 11/10/22 16:08
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289122	SGO	EET PHX	11/21/22 05:46
Total/NA	Analysis	200.7 Rev 4.4		1	289387	CHS	EET PHX	11/22/22 13:35
Total/NA	Prep	200.8			289054	ABA	EET PHX	11/18/22 16:34
Total/NA	Analysis	200.8 LL		1	289509	ARE	EET PHX	11/28/22 13:08

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193772-1
SDG: APS Four Corners Power Plant (Multiunit)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	05-31-23
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22 *
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-01-24
Kansas	NELAP	E-10166	04-30-23
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Louisiana (All)	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-23
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-23
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-23
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	09-30-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-23
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-23
Wisconsin	State	999615430	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193772-1
SDG: APS Four Corners Power Plant (Multiunit)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR 193772

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Multiunit)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	Sample Specific Notes:
FC-CCR-MW52-1122 -1	11/10/2022	9:58	G	W	3	N	Y		X					X					Low Flow, MS/MSD included
FC-CCR-MW61-1122 -2	11/11/2022	9:25	G	W	2	N	N	X			X		X		X	X	X	X	Low Flow
FC-CCR-MW75-1122 -3	11/11/2022	10:33	G	W	2	N	N	X			X		X		X	X	X	X	"
FC-CCR-FD03-1122 -4	11/10/2022	16:08	G	W	2	N	N		X					X					"
								1	4	4	4	4	4	4	4	1	1	1	

550-193772 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

1.3°C, 2.1°C

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WSP	11/16/22@08:00	[signature]	A-Hotshot	11-16-2022 7:58AM
[signature]	A-Hotshot	11-16-22			
		14 KS	Received in Laboratory by: [signature]	ETA-PHX	11/16/22 1418

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Roberts, Danielle C	Carrier Tracking No(s)	COC No 550-35411.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-193772-1
Address: 4955 Yarrow Street,	Due Date Requested: 12/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW61-1122 (550-193772-2)	11/11/22	09:25 Arizona		Water			X	1	AZ Sample
FC-CCR-MW75-1122 (550-193772-3)	11/11/22	10:33 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Emell 11-17-22	14:45	EESW	Fedex		
Relinquished by: Fedex	Date/Time:	Company	Received by:	Date/Time: 11/18/22 1030	Company: EHSW
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: 1882402
Cooler Temperature(s) °C and Other Remarks: 0.3 IR2 CF 0.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193772-1
SDG Number: APS Four Corners Power Plant (Multiunit)

Login Number: 193772
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193772-1
SDG Number: APS Four Corners Power Plant (Multiunit)

Login Number: 193772
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 11/18/22 04:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 12/8/2022 11:09:19 AM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Four Corners Power Plant (Other)

JOB NUMBER

550-193775-1

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix AZ 85040

See page two for job notes and contact information.

my EOL

Eurofins Phoenix

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization

Generated
12/8/2022 11:09:19 AM

Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
B7	Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above the concentration found in the blank.
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H1	Sample analysis performed past holding time.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-193775-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-193775-1

Comments
No additional comments.

Receipt
The samples were received on 11/16/2022 2:18 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.8º C, 1.1º C, 1.3º C, 1.4º C and 2.1º C.

Receipt Exceptions
No sample volume was received for sample ID FC-CCR-DMX06-1122. Sample not included in log in.

HPLC/IC
Method 300.0: The following sample was diluted to bring the concentration of target analytes within the instrument's safe operating range: FC-CCR-DMX03-1122 (550-193775-2). Elevated reporting limits (RLs) are provided.

Method 300.0: The laboratory control sample duplicate (LCSD) associated with analytical batch 550-289643 was outside acceptance criteria for Sulfate due to carry over from a previous sample injection. The results for the batch laboratory control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) were within acceptance limits and may be used to evaluate accuracy precision and matrix performance. As such, results have been reported and qualified with N1 flags on the LCS.

Method 300.0: The following sample was diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-MW17R-1122 (550-193775-9). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

Method 300.0: The following samples were diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-MW05-1122 (550-193775-6), FC-CCR-MW06-1122 (550-193775-7) and FC-CCR-MW18-1122 (550-193775-10). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

Method 300.0: The following samples were diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-DMX04-1122 (550-193775-3), FC-CCR-MW23R-1122 (550-193775-13) and FC-CCR-MW24-1122 (550-193775-14). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

Method 300.0: The following samples were diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-MW36R-1122 (550-193775-16), FC-CCR-MW38R-1122 (550-193775-17), FC-CCR-MW56-1122 (550-193775-18) and FC-CCR-MW571122 (550-193775-21). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-289388 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Job ID: 550-193775-1 (Continued)

Laboratory: Eurofins Phoenix (Continued)

Method 200.7 Rev 4.4: The method blank for preparation batch 550-289119 contained Manganese above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Methods 200.7, 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 280-595006 and analytical batch 280-595411 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 2540C: The following samples were analyzed outside of the 7 day analytical holding time for Total Dissolved Solids by method SM 2540C due to an error that occurred in the Laboratory's Information Management System (LIMS). The samples did not appear on the backlog report for the requested analysis until after the holding time had exceeded. The issue has been sent to technical support for further investigation. As such, these result have been reported and qualified with H1 flags.

FC-CCR-SUMP1-1122 (550-193775-28), FC-CCR-SUMP2-1122 (550-193775-29), FC-CCR-SUMP3-1122 (550-193775-30), FC-CCR-SUMP7-1122 (550-193775-31), FC-CCR-SUMP8-1122 (550-193775-32), FC-CCR-SUMP9-1122 (550-193775-33), FC-CCR-SUMP10-1122 (550-193775-34), FC-CCR-SUMP11-1122 (550-193775-35), FC-CCR-SUMP12-1122 (550-193775-36), FC-CCR-SUMP13-1122 (550-193775-37), FC-CCR-SUMP15-11 (550-193775-38), FC-CCR-SUMP16-1122 (550-193775-39), FC-CCR-SUMP17-1122 (550-193775-40) and FC-CCR-SUMP18-1122 (550-193775-41)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-193775-1	FC-CCR-DMX01-1122	Water	11/11/22 12:15	11/16/22 14:18
550-193775-2	FC-CCR-DMX03-1122	Water	11/11/22 15:00	11/16/22 14:18
550-193775-3	FC-CCR-DMX04-1122	Water	11/14/22 13:37	11/16/22 14:18
550-193775-4	FC-CCR-MW01-1122	Water	11/10/22 11:25	11/16/22 14:18
550-193775-5	FC-CCR-MW03-1122	Water	11/10/22 11:56	11/16/22 14:18
550-193775-6	FC-CCR-MW05-1122	Water	11/11/22 15:48	11/16/22 14:18
550-193775-7	FC-CCR-MW06-1122	Water	11/14/22 15:17	11/16/22 14:18
550-193775-8	FC-CCR-FD04-1122	Water	11/11/22 09:05	11/16/22 14:18
550-193775-9	FC-CCR-MW17R-1122	Water	11/15/22 12:47	11/16/22 14:18
550-193775-10	FC-CCR-MW18-1122	Water	11/14/22 12:58	11/16/22 14:18
550-193775-11	FC-CCR-MW19-1122	Water	11/11/22 11:32	11/16/22 14:18
550-193775-12	FC-CCR-MW21-1122	Water	11/10/22 12:33	11/16/22 14:18
550-193775-13	FC-CCR-MW23R-1122	Water	11/11/22 13:33	11/16/22 14:18
550-193775-14	FC-CCR-MW24-1122	Water	11/14/22 14:36	11/16/22 14:18
550-193775-15	FC-CCR-MW30-1122	Water	11/10/22 13:22	11/16/22 14:18
550-193775-16	FC-CCR-MW36R-1122	Water	11/11/22 14:20	11/16/22 14:18
550-193775-17	FC-CCR-MW38R-1122	Water	11/15/22 13:33	11/16/22 14:18
550-193775-18	FC-CCR-MW56-1122	Water	11/15/22 11:58	11/16/22 14:18
550-193775-19	FC-CCR-FD05-1122	Water	11/11/22 11:11	11/16/22 14:18
550-193775-20	FC-CCR-FD06-1122	Water	11/10/22 09:42	11/16/22 14:18
550-193775-21	FC-CCR-MW571122	Water	11/15/22 14:32	11/16/22 14:18
550-193775-22	FC-CCR-MW60-1122	Water	11/10/22 10:48	11/16/22 14:18
550-193775-23	FC-CCR-MW77S-1122	Water	11/10/22 14:00	11/16/22 14:18
550-193775-24	FC-CCR-MW78S-1122	Water	11/10/22 14:45	11/16/22 14:18
550-193775-25	FC-CCR-MW79S-1122	Water	11/10/22 16:02	11/16/22 14:18
550-193775-26	FC-CCR-MW81-1122	Water	11/10/22 15:22	11/16/22 14:18
550-193775-27	FC-CCR-FD07-1122	Water	11/10/22 11:10	11/16/22 14:18
550-193775-28	FC-CCR-SUMP1-1122	Water	11/15/22 07:30	11/16/22 14:18
550-193775-29	FC-CCR-SUMP2-1122	Water	11/15/22 07:51	11/16/22 14:18
550-193775-30	FC-CCR-SUMP3-1122	Water	11/15/22 08:27	11/16/22 14:18
550-193775-31	FC-CCR-SUMP7-1122	Water	11/15/22 08:49	11/16/22 14:18
550-193775-32	FC-CCR-SUMP8-1122	Water	11/15/22 08:40	11/16/22 14:18
550-193775-33	FC-CCR-SUMP9-1122	Water	11/15/22 09:00	11/16/22 14:18
550-193775-34	FC-CCR-SUMP10-1122	Water	11/15/22 09:12	11/16/22 14:18
550-193775-35	FC-CCR-SUMP11-1122	Water	11/15/22 09:22	11/16/22 14:18
550-193775-36	FC-CCR-SUMP12-1122	Water	11/15/22 09:32	11/16/22 14:18
550-193775-37	FC-CCR-SUMP13-1122	Water	11/15/22 09:40	11/16/22 14:18
550-193775-38	FC-CCR-SUMP15-1122	Water	11/15/22 10:05	11/16/22 14:18
550-193775-39	FC-CCR-SUMP16-1122	Water	11/15/22 10:10	11/16/22 14:18
550-193775-40	FC-CCR-SUMP17-1122	Water	11/15/22 10:17	11/16/22 14:18
550-193775-41	FC-CCR-SUMP18-1122	Water	11/15/22 10:25	11/16/22 14:18

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX01-1122 — Lab Sample ID: 550-193775-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	80	M3	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.00064		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0094		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-DMX03-1122 — Lab Sample ID: 550-193775-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400		mg/L	200		300.0	Total/NA
Sulfate	13000	D2	400		mg/L	200		300.0	Total/NA
Lithium	1.3		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.82		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.41		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2000	D2	20		mg/L	10		200.7 Rev 4.4	Total/NA
Manganese	0.54		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	62	B7	0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3100	D2	5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.017		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.00026		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0015		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.00092		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0076		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00046		0.00010		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	880		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	880		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	21000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.1	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-DMX04-1122 — Lab Sample ID: 550-193775-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	540	D2	10		mg/L	5		300.0	Total/NA
Sulfate	7400	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.67		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.6		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.10		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	780		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.64	B7	0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	37	B7	0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000	D2	2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.00059		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.0086		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0013		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0089		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0015		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00015		0.00010		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	370		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	370		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Client Sample ID: FC-CCR-DMX04-1122 (Continued) — Lab Sample ID: 550-193775-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Temperature	14.0	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW01-1122 — Lab Sample ID: 550-193775-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	54		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.047		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.024		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW03-1122 — Lab Sample ID: 550-193775-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	8.0		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Molybdenum	0.0023		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW05-1122 — Lab Sample ID: 550-193775-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	4200	D2	400		mg/L	200		300.0	Total/NA
Sulfate	15000	D2	400		mg/L	200		300.0	Total/NA
Lithium	2.2		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.2		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	520		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.25		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1300	D2	40		mg/L	20		200.7 Rev 4.4	Total/NA
Manganese	1.1	B7	0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	95	B7	0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	6700	D2	10		mg/L	20		200.7 Rev 4.4	Total/NA
Cobalt	0.0048		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0018		0.00050		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	870		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	870		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	27000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.5	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW06-1122 — Lab Sample ID: 550-193775-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	2800	D2	400		mg/L	200		300.0	Total/NA
Sulfate	21000	D2	400		mg/L	200		300.0	Total/NA
Lithium	2.4		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	6.1		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.30		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1600	D2	40		mg/L	20		200.7 Rev 4.4	Total/NA
Manganese	0.071		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	100	B7	0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	8100	D2	10		mg/L	20		200.7 Rev 4.4	Total/NA
Arsenic	0.00050		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.014		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.00095		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0038		0.00050		mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW06-1122 (Continued) — Lab Sample ID: 550-193775-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.0021		0.00050	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	660		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	660		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	34000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD04-1122 — Lab Sample ID: 550-193775-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	83		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.00052		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0085		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW17R-1122 — Lab Sample ID: 550-193775-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	430	D2	10	mg/L	5		300.0	Total/NA
Sulfate	4000	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.47		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	37		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	290		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.87	B7	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	21	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100	D2	2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.018		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.0014		0.00010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.065		0.00050	mg/L	1		200.8 LL	Total/NA
Lead	0.0026		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0013		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.0012		0.00050	mg/L	1		200.8 LL	Total/NA
Thallium	0.00031		0.00010	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6700	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW18-1122 — Lab Sample ID: 550-193775-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4700	D2	400	mg/L	200		300.0	Total/NA
Sulfate	16000	D2	400	mg/L	200		300.0	Total/NA
Lithium	2.4		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.30		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1000	D2	40	mg/L	20		200.7 Rev 4.4	Total/NA
Manganese	2.5	B7	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	95	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	7500	D2	10	mg/L	20		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW18-1122 (Continued) — Lab Sample ID: 550-193775-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0095		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0015		0.00050	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	970		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	970		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	32000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW19-1122 — Lab Sample ID: 550-193775-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0013		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0033		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW21-1122 — Lab Sample ID: 550-193775-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.4	D1	0.25	mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	0.0048		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0024		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW23R-1122 — Lab Sample ID: 550-193775-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	850	D2	20	mg/L	10		300.0	Total/NA
Sulfate	9400	D2	400	mg/L	200		300.0	Total/NA
Lithium	1.1		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	12		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.31		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1300	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Manganese	0.014		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	41	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000	D2	2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	0.00059		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0033		0.00050	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW24-1122 — Lab Sample ID: 550-193775-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4800	D2	400	mg/L	200		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Lithium	1.5		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.98		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.12		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	200		2.0	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW24-1122 (Continued) — Lab Sample ID: 550-193775-14

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Manganese	1.8	B7	0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	51	B7	0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	7400	D2	10		mg/L	20		200.7 Rev 4.4	Total/NA
Cobalt	0.0035		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.030		0.00050		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	290		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	290		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	23000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW30-1122 — Lab Sample ID: 550-193775-15

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	22	M3	0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0016		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0056		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW36R-1122 — Lab Sample ID: 550-193775-16

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	520	D2	10		mg/L	5		300.0	Total/NA
Sulfate	4000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.66		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	55		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	420		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.26		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	26	B7	0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1000	D2	2.0		mg/L	4		200.7 Rev 4.4	Total/NA
Cobalt	0.23		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.00084		0.00050		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	220		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	220		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.2	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW38R-1122 — Lab Sample ID: 550-193775-17

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	370	D2	10		mg/L	5		300.0	Total/NA
Sulfate	5300	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.55		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	24		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.24		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	500		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	23	B7	0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	D2	2.0		mg/L	4		200.7 Rev 4.4	Total/NA
Barium	0.014		0.00050		mg/L	1		200.8 LL	Total/NA
Cobalt	0.17		0.00050		mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW38R-1122 (Continued) — Lab Sample ID: 550-193775-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	0.0044		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.011		0.00050	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	180		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	180		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8500	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW56-1122 — Lab Sample ID: 550-193775-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3300	D2	40	mg/L	20		300.0	Total/NA
Sulfate	19000	D2	2000	mg/L	1000		300.0	Total/NA
Lithium	1.9		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.28		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2700	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	91	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	5300	D2	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.019		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00022		0.00010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0050		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.30	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Thallium	0.0011		0.00010	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	910		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	910		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	32000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD05-1122 — Lab Sample ID: 550-193775-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0013		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0034		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-FD06-1122 — Lab Sample ID: 550-193775-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	22		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0015		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0060		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW571122 — Lab Sample ID: 550-193775-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	670	D2	20	mg/L	10		300.0	Total/NA
Sulfate	9600	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.51	M2	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.3		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW571122 (Continued) — Lab Sample ID: 550-193775-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.14		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1000	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Manganese	0.051		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	50	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2600	D2	2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0060	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Barium	0.018	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0024	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.0018	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	17000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-1122 — Lab Sample ID: 550-193775-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	60		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.23		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.19		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW77S-1122 — Lab Sample ID: 550-193775-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	9.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0071		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.017		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW78S-1122 — Lab Sample ID: 550-193775-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0035		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0098		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW79S-1122 — Lab Sample ID: 550-193775-25

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	11		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0042		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0050		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW81-1122 — Lab Sample ID: 550-193775-26

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	43	M3	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.020		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0025		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-FD07-1122 — Lab Sample ID: 550-193775-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	42		0.050	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-FD07-1122 (Continued) — Lab Sample ID: 550-193775-27

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.023		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0025		0.00050		mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-SUMP1-1122 — Lab Sample ID: 550-193775-28

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	490	D2	400		mg/L	200		300.0	Total/NA
Boron	72		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	530		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.056		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.19		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	8400	D2 H1	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP2-1122 — Lab Sample ID: 550-193775-29

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	520	D2	400		mg/L	200		300.0	Total/NA
Boron	36		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	9.2		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	470		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.12		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0028		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0059		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	7600	D2 H1	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP3-1122 — Lab Sample ID: 550-193775-30

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	680	D2	400		mg/L	200		300.0	Total/NA
Boron	35		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	5.0		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1100	D2	8.0		mg/L	4		200.7 Rev 4.4	Total/NA
Manganese	0.72		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.0042		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.015		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	20000	D2 H1	200		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP7-1122 — Lab Sample ID: 550-193775-31

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	650	D2	400		mg/L	200		300.0	Total/NA
Boron	57		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.55		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	780		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.085		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.074		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0042		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	9800	D2 H1	100		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP8-1122 — Lab Sample ID: 550-193775-32

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	750	D2	400		mg/L	200		300.0	Total/NA
Boron	39		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.56		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1500	D2	8.0		mg/L	4		200.7 Rev 4.4	Total/NA
Cobalt	0.027		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0039		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	17000	D2 H1	200		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP9-1122 — Lab Sample ID: 550-193775-33

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	580	D2	400		mg/L	200		300.0	Total/NA
Boron	28		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.27		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	790		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.021		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0010		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	10000	D2 H1	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP10-1122 — Lab Sample ID: 550-193775-34

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	490	D2	400		mg/L	200		300.0	Total/NA
Boron	51		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.61		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	470		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.019		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.18		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0013		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	7300	D2 H1	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP11-1122 — Lab Sample ID: 550-193775-35

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	480	D2	400		mg/L	200		300.0	Total/NA
Boron	52		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.47		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	510		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.019		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.16		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.00082		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	7400	D2 H1	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP12-1122 — Lab Sample ID: 550-193775-36

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	510	D2	400		mg/L	200		300.0	Total/NA
Boron	35		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.25		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	730		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.057		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.00088		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	8900	D2 H1	100		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP13-1122 — Lab Sample ID: 550-193775-37

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	520	D2	400		mg/L	200		300.0	Total/NA
Boron	34		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	670		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.057		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0013		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	8500	D2 H1	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP15-1122 — Lab Sample ID: 550-193775-38

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	610	D2	400		mg/L	200		300.0	Total/NA
Boron	21		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.76		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1100	D2	8.0		mg/L	4		200.7 Rev 4.4	Total/NA
Cobalt	0.084		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.013		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	13000	D2 H1	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP16-1122 — Lab Sample ID: 550-193775-39

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	630	D2	400		mg/L	200		300.0	Total/NA
Boron	10		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.5		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2400	D2	8.0		mg/L	4		200.7 Rev 4.4	Total/NA
Cobalt	0.018		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0023		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	12000	D2 H1	100		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP17-1122 — Lab Sample ID: 550-193775-40

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400		mg/L	200		300.0	Total/NA
Boron	5.5		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.1		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	3300	D2	10		mg/L	5		200.7 Rev 4.4	Total/NA
Manganese	0.013		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.00097		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0032		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	34000	D2 H1	200		mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-SUMP18-1122 — Lab Sample ID: 550-193775-41

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400		mg/L	200		300.0	Total/NA
Boron	4.9		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.49		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	3600	D2	10		mg/L	5		200.7 Rev 4.4	Total/NA
Manganese	0.038		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.00089		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0034		0.00050		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	38000	D2 H1	200		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX01-1122

Lab Sample ID: 550-193775-1
Matrix: Water

Date Collected: 11/11/22 12:15
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	80	M3	0.050	mg/L		11/21/22 05:11	11/22/22 16:58	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00064		0.00050	mg/L		11/21/22 04:36	12/05/22 15:37	1
Molybdenum	0.0094		0.00050	mg/L		11/21/22 04:36	12/05/22 15:37	1

Client Sample ID: FC-CCR-DMX03-1122

Lab Sample ID: 550-193775-2
Matrix: Water

Date Collected: 11/11/22 15:00
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1200	D2	400	mg/L			11/17/22 02:38	200
Fluoride	ND	D1 D5	0.80	mg/L			11/17/22 02:10	2
Sulfate	13000	D2	400	mg/L			11/17/22 02:38	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:11	11/22/22 17:01	1
Lithium	1.3		0.020	mg/L		11/30/22 20:14	12/01/22 18:46	1
Boron	0.82		0.050	mg/L		11/21/22 05:11	11/22/22 17:01	1
Calcium	430		2.0	mg/L		11/21/22 05:11	11/22/22 17:01	1
Iron	0.41		0.10	mg/L		11/21/22 05:11	11/22/22 17:01	1
Magnesium	2000	D2	20	mg/L		11/21/22 05:11	11/23/22 19:59	10
Manganese	0.54		0.010	mg/L		11/21/22 05:11	11/23/22 23:37	1
Potassium	62	B7	0.50	mg/L		11/21/22 05:11	11/22/22 17:01	1
Sodium	3100	D2	5.0	mg/L		11/21/22 05:11	11/23/22 19:59	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 04:36	12/07/22 13:48	1
Arsenic	ND		0.00050	mg/L		11/21/22 04:36	12/05/22 15:45	1
Barium	0.017		0.00050	mg/L		11/21/22 04:36	12/07/22 13:48	1
Cadmium	0.00026		0.00010	mg/L		11/21/22 04:36	12/07/22 13:48	1
Chromium	ND		0.0010	mg/L		11/21/22 04:36	12/05/22 15:45	1
Cobalt	0.0015		0.00050	mg/L		11/21/22 04:36	12/05/22 15:45	1
Lead	ND		0.00050	mg/L		11/21/22 04:36	12/05/22 15:45	1
Molybdenum	0.00092		0.00050	mg/L		11/21/22 04:36	12/05/22 15:45	1
Selenium	0.0076		0.00050	mg/L		11/21/22 04:36	12/07/22 13:48	1
Thallium	0.00046		0.00010	mg/L		11/21/22 04:36	12/05/22 15:45	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	880		6.0	mg/L			11/23/22 20:01	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 20:01	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	880		6.0	mg/L			11/23/22 20:01	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 20:01	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 20:01	1

Client Sample ID: FC-CCR-DMX03-1122

Lab Sample ID: 550-193775-2

Date Collected: 11/11/22 15:00
Matrix: Water
Date Received: 11/16/22 14:18

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	21000	D2	200	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			11/17/22 13:47	1
Temperature (SM 4500 H+ B)	13.1	H5 T5	0.1	Degrees C			11/17/22 13:47	1

Client Sample ID: FC-CCR-DMX04-1122

Lab Sample ID: 550-193775-3

Date Collected: 11/14/22 13:37
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	540	D2	10	mg/L			12/02/22 01:07	5
Fluoride	ND	D1 D5	2.0	mg/L			12/02/22 01:07	5
Sulfate	7400	D2	400	mg/L			12/02/22 13:37	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:11	11/22/22 17:04	1
Lithium	0.67		0.020	mg/L		11/30/22 20:14	12/01/22 19:06	1
Boron	1.6		0.050	mg/L		11/21/22 05:11	11/22/22 17:04	1
Calcium	430		2.0	mg/L		11/21/22 05:11	11/22/22 17:04	1
Iron	0.10		0.10	mg/L		11/21/22 05:11	11/22/22 17:04	1
Magnesium	780		2.0	mg/L		11/21/22 05:11	11/22/22 17:04	1
Manganese	0.64	B7	0.010	mg/L		11/21/22 05:11	11/22/22 17:04	1
Potassium	37	B7	0.50	mg/L		11/21/22 05:11	11/22/22 17:04	1
Sodium	2000	D2	2.5	mg/L		11/21/22 05:11	11/23/22 20:02	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 04:36	12/07/22 13:50	1
Arsenic	0.00059		0.00050	mg/L		11/21/22 04:36	12/05/22 15:47	1
Barium	0.0086		0.00050	mg/L		11/21/22 04:36	12/07/22 13:50	1
Cadmium	ND		0.00010	mg/L		11/21/22 04:36	12/07/22 13:50	1
Chromium	ND		0.0010	mg/L		11/21/22 04:36	12/05/22 15:47	1
Cobalt	0.0013		0.00050	mg/L		11/21/22 04:36	12/05/22 15:47	1
Lead	ND		0.00050	mg/L		11/21/22 04:36	12/05/22 15:47	1
Molybdenum	0.0089		0.00050	mg/L		11/21/22 04:36	12/05/22 15:47	1
Selenium	0.0015		0.00050	mg/L		11/21/22 04:36	12/07/22 13:50	1
Thallium	0.00015		0.00010	mg/L		11/21/22 04:36	12/05/22 15:47	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	370		6.0	mg/L			11/23/22 20:14	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 20:14	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	370		6.0	mg/L			11/23/22 20:14	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 20:14	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 20:14	1
Total Dissolved Solids (SM 2540C)	12000	D2	100	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			11/17/22 13:48	1

Client Sample ID: FC-CCR-DMX04-1122 — Lab Sample ID: 550-193775-3

Date Collected: 11/14/22 13:37 — **Matrix: Water**
Date Received: 11/16/22 14:18

General Chemistry (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SM 4500 H+ B)	14.0	H5 T5	0.1		Degrees C			11/17/22 13:48	1

Client Sample ID: FC-CCR-MW01-1122 — Lab Sample ID: 550-193775-4

Date Collected: 11/10/22 11:25 — **Matrix: Water**
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	54		0.050		mg/L		11/21/22 05:11	11/22/22 17:07	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.047		0.00050		mg/L		11/21/22 04:36	12/05/22 15:49	1
Molybdenum	0.024		0.00050		mg/L		11/21/22 04:36	12/05/22 15:49	1

Client Sample ID: FC-CCR-MW03-1122 — Lab Sample ID: 550-193775-5

Date Collected: 11/10/22 11:56 — **Matrix: Water**
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	8.0		0.050		mg/L		11/21/22 05:11	11/22/22 17:10	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.00050		mg/L		11/21/22 04:36	12/05/22 15:51	1
Molybdenum	0.0023		0.00050		mg/L		11/21/22 04:36	12/05/22 15:51	1

Client Sample ID: FC-CCR-MW05-1122 — Lab Sample ID: 550-193775-6

Date Collected: 11/11/22 15:48 — **Matrix: Water**
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4200	D2	400		mg/L			11/30/22 20:34	200
Fluoride	ND	D1 D5	4.0		mg/L			11/30/22 20:06	10
Sulfate	15000	D2	400		mg/L			11/30/22 20:34	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:11	11/22/22 17:12	1
Lithium	2.2		0.020		mg/L		11/30/22 20:14	12/01/22 19:10	1
Boron	1.2		0.050		mg/L		11/21/22 05:11	11/22/22 17:12	1
Calcium	520		2.0		mg/L		11/21/22 05:11	11/22/22 17:12	1
Iron	0.25		0.10		mg/L		11/21/22 05:11	11/22/22 17:12	1
Magnesium	1300	D2	40		mg/L		11/21/22 05:11	11/23/22 20:05	20
Manganese	1.1	B7	0.010		mg/L		11/21/22 05:11	11/22/22 17:12	1
Potassium	95	B7	0.50		mg/L		11/21/22 05:11	11/22/22 17:12	1
Sodium	6700	D2	10		mg/L		11/21/22 05:11	11/23/22 20:05	20

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW05-1122

Lab Sample ID: 550-193775-6
Date Collected: 11/11/22 15:48
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.0048**		0.00050	mg/L		11/21/22 04:36	12/05/22 15:54	1
Molybdenum	**0.0018**		0.00050	mg/L		11/21/22 04:36	12/05/22 15:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	**870**		6.0	mg/L			11/23/22 21:18	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 21:18	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**870**		6.0	mg/L			11/23/22 21:18	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 21:18	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 21:18	1
Total Dissolved Solids (SM 2540C)	**27000**	**D2**	200	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	**7.0**	**H5**	1.7	SU			11/17/22 13:50	1
Temperature (SM 4500 H+ B)	**13.5**	**H5 T5**	0.1	Degrees C			11/17/22 13:50	1

Client Sample ID: FC-CCR-MW06-1122

Lab Sample ID: 550-193775-7
Date Collected: 11/14/22 15:17
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2800**	**D2**	400	mg/L			11/30/22 21:30	200
Fluoride	ND	D1 D5	4.0	mg/L			11/30/22 21:02	10
Sulfate	**21000**	**D2**	400	mg/L			11/30/22 21:30	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:11	11/22/22 17:15	1
Lithium	**2.4**		0.020	mg/L		11/30/22 20:14	12/01/22 19:14	1
Boron	**6.1**		0.050	mg/L		11/21/22 05:11	11/22/22 17:15	1
Calcium	**500**		2.0	mg/L		11/21/22 05:11	11/22/22 17:15	1
Iron	**0.30**		0.10	mg/L		11/21/22 05:11	11/22/22 17:15	1
Magnesium	**1600**	**D2**	40	mg/L		11/21/22 05:11	11/23/22 20:07	20
Manganese	**0.071**		0.010	mg/L		11/21/22 05:11	11/23/22 23:40	1
Potassium	**100**	**B7**	0.50	mg/L		11/21/22 05:11	11/22/22 17:15	1
Sodium	**8100**	**D2**	10	mg/L		11/21/22 05:11	11/23/22 20:07	20

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 04:36	12/07/22 13:52	1
Arsenic	**0.00050**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:52	1
Barium	**0.014**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:52	1
Cadmium	ND		0.00010	mg/L		11/21/22 04:36	12/07/22 13:52	1
Chromium	ND		0.0010	mg/L		11/21/22 04:36	12/07/22 13:52	1
Cobalt	**0.00095**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:52	1
Lead	ND		0.00050	mg/L		11/21/22 04:36	12/07/22 13:52	1
Molybdenum	**0.0038**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:52	1
Selenium	**0.0021**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:52	1
Thallium	ND		0.00010	mg/L		11/21/22 04:36	12/07/22 13:52	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW06-1122

Lab Sample ID: 550-193775-7
Date Collected: 11/14/22 15:17
Matrix: Water
Date Received: 11/16/22 14:18

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	**660**		6.0	mg/L			11/23/22 21:47	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 21:47	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**660**		6.0	mg/L			11/23/22 21:47	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 21:47	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 21:47	1
Total Dissolved Solids (SM 2540C)	**34000**	**D2**	200	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	**7.3**	**H5**	1.7	SU			11/17/22 13:51	1
Temperature (SM 4500 H+ B)	**12.1**	**H5 T5**	0.1	Degrees C			11/17/22 13:51	1

Client Sample ID: FC-CCR-FD04-1122

Lab Sample ID: 550-193775-8
Date Collected: 11/11/22 09:05
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**83**		0.050	mg/L		11/21/22 05:11	11/22/22 17:18	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.00052**		0.00050	mg/L		11/21/22 04:36	12/05/22 15:58	1
Molybdenum	**0.0085**		0.00050	mg/L		11/21/22 04:36	12/05/22 15:58	1

Client Sample ID: FC-CCR-MW17R-1122

Lab Sample ID: 550-193775-9
Date Collected: 11/15/22 12:47
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**430**	**D2**	10	mg/L			11/29/22 21:54	5
Fluoride	ND	D1 D5	2.0	mg/L			11/29/22 21:54	5
Sulfate	**4000**	**D2**	400	mg/L			11/29/22 22:13	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:11	11/22/22 17:21	1
Lithium	**0.47**		0.020	mg/L		11/30/22 20:14	12/01/22 19:18	1
Boron	**37**		0.050	mg/L		11/21/22 05:11	11/22/22 17:21	1
Calcium	**480**		2.0	mg/L		11/21/22 05:11	11/22/22 17:21	1
Iron	ND		0.10	mg/L		11/21/22 05:11	11/22/22 17:21	1
Magnesium	**290**		2.0	mg/L		11/21/22 05:11	11/22/22 17:21	1
Manganese	**0.87**	**B7**	0.010	mg/L		11/21/22 05:11	11/22/22 17:21	1
Potassium	**21**	**B7**	0.50	mg/L		11/21/22 05:11	11/22/22 17:21	1
Sodium	**1100**	**D2**	2.5	mg/L		11/21/22 05:11	11/23/22 20:10	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 04:36	12/07/22 13:54	1
Arsenic	ND		0.00050	mg/L		11/21/22 04:36	12/05/22 16:00	1
Barium	**0.018**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:54	1

Client Sample ID: FC-CCR-MW17R-1122

Lab Sample ID: 550-193775-9

Date Collected: 11/15/22 12:47
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0014		0.00010	mg/L		11/21/22 04:36	12/07/22 13:54	1
Chromium	ND		0.0010	mg/L		11/21/22 04:36	12/05/22 16:00	1
Cobalt	0.065		0.00050	mg/L		11/21/22 04:36	12/05/22 16:00	1
Lead	0.0026		0.00050	mg/L		11/21/22 04:36	12/05/22 16:00	1
Molybdenum	0.0013		0.00050	mg/L		11/21/22 04:36	12/05/22 16:00	1
Selenium	0.0012		0.00050	mg/L		11/21/22 04:36	12/07/22 13:54	1
Thallium	0.00031		0.00010	mg/L		11/21/22 04:36	12/05/22 16:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			11/23/22 21:59	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 21:59	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			11/23/22 21:59	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 21:59	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 21:59	1
Total Dissolved Solids (SM 2540C)	6700	D2	100	mg/L			11/22/22 17:21	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			11/17/22 13:53	1
Temperature (SM 4500 H+ B)	11.7	H5 T5	0.1	Degrees C			11/17/22 13:53	1

Client Sample ID: FC-CCR-MW18-1122

Lab Sample ID: 550-193775-10

Date Collected: 11/14/22 12:58
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4700	D2	400	mg/L			11/30/22 22:26	200
Fluoride	ND	D1 D5	4.0	mg/L			11/30/22 21:58	10
Sulfate	16000	D2	400	mg/L			11/30/22 22:26	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:11	11/22/22 17:24	1
Lithium	2.4		0.020	mg/L		11/30/22 20:14	12/01/22 19:22	1
Boron	1.2		0.050	mg/L		11/21/22 05:11	11/22/22 17:24	1
Calcium	490		2.0	mg/L		11/21/22 05:11	11/22/22 17:24	1
Iron	0.30		0.10	mg/L		11/21/22 05:11	11/22/22 17:24	1
Magnesium	1000	D2	40	mg/L		11/21/22 05:11	11/23/22 20:13	20
Manganese	2.5	B7	0.010	mg/L		11/21/22 05:11	11/22/22 17:24	1
Potassium	95	B7	0.50	mg/L		11/21/22 05:11	11/22/22 17:24	1
Sodium	7500	D2	10	mg/L		11/21/22 05:11	11/23/22 20:13	20

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0095		0.00050	mg/L		11/21/22 04:36	12/05/22 16:02	1
Molybdenum	0.0015		0.00050	mg/L		11/21/22 04:36	12/07/22 13:08	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	970		6.0	mg/L			11/23/22 22:06	1

Client Sample ID: FC-CCR-MW18-1122 — Lab Sample ID: 550-193775-10

Date Collected: 11/14/22 12:58 — **Matrix: Water**
Date Received: 11/16/22 14:18

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 22:06	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**970**		6.0	mg/L			11/23/22 22:06	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 22:06	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 22:06	1
Total Dissolved Solids (SM 2540C)	**32000**	**D2**	200	mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	**7.0**	**H5**	1.7	SU			11/17/22 13:54	1
Temperature (SM 4500 H+ B)	**11.9**	**H5 T5**	0.1	Degrees C			11/17/22 13:54	1

Client Sample ID: FC-CCR-MW19-1122 — Lab Sample ID: 550-193775-11

Date Collected: 11/11/22 11:32 — **Matrix: Water**
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.9**		0.050	mg/L		11/21/22 05:11	11/22/22 17:32	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.0013**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:10	1
Molybdenum	**0.0033**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:10	1

Client Sample ID: FC-CCR-MW21-1122 — Lab Sample ID: 550-193775-12

Date Collected: 11/10/22 12:33 — **Matrix: Water**
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.4**	**D1**	0.25	mg/L		11/21/22 05:11	11/23/22 20:22	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.0048**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:12	1
Molybdenum	**0.0024**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:12	1

Client Sample ID: FC-CCR-MW23R-1122 — Lab Sample ID: 550-193775-13

Date Collected: 11/11/22 13:33 — **Matrix: Water**
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**850**	**D2**	20	mg/L			12/02/22 02:03	10
Fluoride	ND	D1 D5	4.0	mg/L			12/02/22 02:03	10
Sulfate	**9400**	**D2**	400	mg/L			12/02/22 13:55	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:11	11/22/22 17:38	1
Lithium	**1.1**		0.020	mg/L		11/30/22 20:14	12/01/22 19:26	1
Boron	**12**		0.050	mg/L		11/21/22 05:11	11/22/22 17:38	1

Client Sample ID: FC-CCR-MW23R-1122

Lab Sample ID: 550-193775-13

Date Collected: 11/11/22 13:33
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	500		2.0	mg/L		11/21/22 05:11	11/22/22 17:38	1
Iron	0.31		0.10	mg/L		11/21/22 05:11	11/22/22 17:38	1
Magnesium	1300	D2	10	mg/L		11/21/22 05:11	11/23/22 20:24	5
Manganese	0.014		0.010	mg/L		11/21/22 05:11	11/23/22 23:45	1
Potassium	41	B7	0.50	mg/L		11/21/22 05:11	11/22/22 17:38	1
Sodium	2000	D2	2.5	mg/L		11/21/22 05:11	11/23/22 20:24	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00059		0.00050	mg/L		11/21/22 04:36	12/07/22 13:14	1
Molybdenum	0.0033		0.00050	mg/L		11/21/22 04:36	12/07/22 13:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	500		6.0	mg/L			11/23/22 22:22	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 22:22	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	500		6.0	mg/L			11/23/22 22:22	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 22:22	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 22:22	1
Total Dissolved Solids (SM 2540C)	16000	D2	100	mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			11/17/22 13:55	1
Temperature (SM 4500 H+ B)	11.9	H5 T5	0.1	Degrees C			11/17/22 13:55	1

Client Sample ID: FC-CCR-MW24-1122

Lab Sample ID: 550-193775-14

Date Collected: 11/14/22 14:36
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4800	D2	400	mg/L			12/02/22 03:26	200
Fluoride	ND	D1 D5	2.0	mg/L			12/02/22 02:58	5
Sulfate	12000	D2	400	mg/L			12/02/22 14:13	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:11	11/22/22 17:41	1
Lithium	1.5		0.020	mg/L		11/30/22 20:14	12/01/22 19:30	1
Boron	0.98		0.050	mg/L		11/21/22 05:11	11/22/22 17:41	1
Calcium	490		2.0	mg/L		11/21/22 05:11	11/22/22 17:41	1
Iron	0.12		0.10	mg/L		11/21/22 05:11	11/22/22 17:41	1
Magnesium	200		2.0	mg/L		11/21/22 05:11	11/22/22 17:41	1
Manganese	1.8	B7	0.010	mg/L		11/21/22 05:11	11/22/22 17:41	1
Potassium	51	B7	0.50	mg/L		11/21/22 05:11	11/22/22 17:41	1
Sodium	7400	D2	10	mg/L		11/21/22 05:11	11/23/22 20:27	20

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0035		0.00050	mg/L		11/21/22 04:36	12/07/22 13:16	1
Molybdenum	0.030		0.00050	mg/L		11/21/22 04:36	12/07/22 13:16	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW24-1122

Lab Sample ID: 550-193775-14
Date Collected: 11/14/22 14:36
Matrix: Water
Date Received: 11/16/22 14:18

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	290		6.0		mg/L			11/23/22 22:32	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0		mg/L			11/23/22 22:32	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	290		6.0		mg/L			11/23/22 22:32	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/23/22 22:32	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/23/22 22:32	1
Total Dissolved Solids (SM 2540C)	23000	D2	200		mg/L			11/19/22 18:02	1
pH (SM 4500 H+ B)	7.4	H5	1.7		SU			11/17/22 13:59	1
Temperature (SM 4500 H+ B)	12.3	H5 T5	0.1		Degrees C			11/17/22 13:59	1

Client Sample ID: FC-CCR-MW30-1122

Lab Sample ID: 550-193775-15
Date Collected: 11/10/22 13:22
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	22	M3	0.050		mg/L		11/21/22 05:35	11/22/22 15:36	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0016		0.00050		mg/L		11/21/22 09:27	12/05/22 14:32	1
Molybdenum	0.0056		0.00050		mg/L		11/21/22 09:27	12/05/22 14:32	1

Client Sample ID: FC-CCR-MW36R-1122

Lab Sample ID: 550-193775-16
Date Collected: 11/11/22 14:20
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	520	D2	10		mg/L			12/01/22 18:36	5
Fluoride	ND	D1 D5	2.0		mg/L			12/01/22 18:36	5
Sulfate	4000	D2	400		mg/L			12/01/22 19:04	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:11	11/22/22 17:44	1
Lithium	0.66		0.020		mg/L		11/30/22 20:14	12/01/22 19:34	1
Boron	55		0.050		mg/L		11/21/22 05:11	11/22/22 17:44	1
Calcium	500		2.0		mg/L		11/21/22 05:11	11/22/22 17:44	1
Iron	ND		0.10		mg/L		11/21/22 05:11	11/22/22 17:44	1
Magnesium	420		2.0		mg/L		11/21/22 05:11	11/22/22 17:44	1
Manganese	0.26		0.010		mg/L		11/21/22 05:11	11/23/22 23:48	1
Potassium	26	B7	0.50		mg/L		11/21/22 05:11	11/22/22 17:44	1
Sodium	1000	D2	2.0		mg/L		11/21/22 05:11	11/23/22 20:30	4

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.23		0.00050		mg/L		11/21/22 04:36	12/07/22 13:18	1
Molybdenum	0.00084		0.00050		mg/L		11/21/22 04:36	12/07/22 13:18	1

Client Sample ID: FC-CCR-MW36R-1122

Lab Sample ID: 550-193775-16

Date Collected: 11/11/22 14:20
Matrix: Water
Date Received: 11/16/22 14:18

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	**220**		6.0		mg/L			11/23/22 20:51	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0		mg/L			11/23/22 20:51	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**220**		6.0		mg/L			11/23/22 20:51	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/23/22 20:51	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/23/22 20:51	1
Total Dissolved Solids (SM 2540C)	**7200**	**D2**	100		mg/L			11/18/22 18:55	1
pH (SM 4500 H+ B)	**7.4**	**H5**	1.7		SU			11/17/22 14:01	1
Temperature (SM 4500 H+ B)	**12.2**	**H5 T5**	0.1		Degrees C			11/17/22 14:01	1

Client Sample ID: FC-CCR-MW38R-1122

Lab Sample ID: 550-193775-17

Date Collected: 11/15/22 13:33
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**370**	**D2**	10		mg/L			12/01/22 19:32	5
Fluoride	ND	D1 D5	2.0		mg/L			12/01/22 19:32	5
Sulfate	**5300**	**D2**	400		mg/L			12/01/22 20:00	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:11	11/22/22 17:46	1
Lithium	**0.55**		0.020		mg/L		11/30/22 20:14	12/01/22 19:38	1
Boron	**24**		0.050		mg/L		11/21/22 05:11	11/22/22 17:46	1
Calcium	**460**		2.0		mg/L		11/21/22 05:11	11/22/22 17:46	1
Iron	**0.24**		0.10		mg/L		11/21/22 05:11	11/22/22 17:46	1
Magnesium	**500**		2.0		mg/L		11/21/22 05:11	11/22/22 17:46	1
Manganese	ND		0.010		mg/L		11/21/22 05:11	11/22/22 17:46	1
Potassium	**23**	**B7**	0.50		mg/L		11/21/22 05:11	11/22/22 17:46	1
Sodium	**1500**	**D2**	2.0		mg/L		11/21/22 05:11	11/23/22 20:33	4

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010		mg/L		11/21/22 04:36	12/07/22 13:56	1
Arsenic	ND		0.00050		mg/L		11/21/22 04:36	12/05/22 16:21	1
Barium	**0.014**		0.00050		mg/L		11/21/22 04:36	12/07/22 13:56	1
Cadmium	ND		0.00010		mg/L		11/21/22 04:36	12/07/22 13:56	1
Chromium	ND		0.0010		mg/L		11/21/22 04:36	12/05/22 16:21	1
Cobalt	**0.17**		0.00050		mg/L		11/21/22 04:36	12/05/22 16:21	1
Lead	ND		0.00050		mg/L		11/21/22 04:36	12/05/22 16:21	1
Molybdenum	**0.0044**		0.00050		mg/L		11/21/22 04:36	12/05/22 16:21	1
Selenium	**0.011**		0.00050		mg/L		11/21/22 04:36	12/07/22 13:56	1
Thallium	ND		0.00010		mg/L		11/21/22 04:36	12/05/22 16:21	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	**180**		6.0		mg/L			11/23/22 20:22	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0		mg/L			11/23/22 20:22	1

Client Sample ID: FC-CCR-MW38R-1122

Lab Sample ID: 550-193775-17

Date Collected: 11/15/22 13:33
Matrix: Water
Date Received: 11/16/22 14:18

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**180**		6.0	mg/L			11/23/22 20:22	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 20:22	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 20:22	1
Total Dissolved Solids (SM 2540C)	**8500**	**D2**	100	mg/L			11/22/22 17:21	1
pH (SM 4500 H+ B)	**7.4**	**H5**	1.7	SU			11/17/22 14:02	1
Temperature (SM 4500 H+ B)	**10.9**	**H5 T5**	0.1	Degrees C			11/17/22 14:02	1

Client Sample ID: FC-CCR-MW56-1122

Lab Sample ID: 550-193775-18

Date Collected: 11/15/22 11:58
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3300**	**D2**	40	mg/L			12/01/22 20:28	20
Fluoride	ND	D1 D5	8.0	mg/L			12/01/22 20:28	20
Sulfate	**19000**	**D2**	2000	mg/L			12/02/22 14:32	1000

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:11	11/22/22 17:49	1
Lithium	**1.9**		0.020	mg/L		11/30/22 20:14	12/01/22 19:42	1
Boron	**1.5**		0.050	mg/L		11/21/22 05:11	11/22/22 17:49	1
Calcium	**470**		2.0	mg/L		11/21/22 05:11	11/22/22 17:49	1
Iron	**0.28**		0.10	mg/L		11/21/22 05:11	11/22/22 17:49	1
Magnesium	**2700**	**D2**	20	mg/L		11/21/22 05:11	11/23/22 20:36	10
Manganese	ND		0.010	mg/L		11/21/22 05:11	11/22/22 17:49	1
Potassium	**91**	**B7**	0.50	mg/L		11/21/22 05:11	11/22/22 17:49	1
Sodium	**5300**	**D2**	5.0	mg/L		11/21/22 05:11	11/23/22 20:36	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 04:36	12/07/22 13:58	1
Arsenic	ND	D1	0.0010	mg/L		11/21/22 04:36	12/07/22 14:04	2
Barium	**0.019**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:58	1
Cadmium	**0.00022**		0.00010	mg/L		11/21/22 04:36	12/07/22 13:58	1
Chromium	ND	D1	0.0020	mg/L		11/21/22 04:36	12/07/22 14:04	2
Cobalt	ND	D1	0.0010	mg/L		11/21/22 04:36	12/07/22 14:04	2
Lead	ND		0.00050	mg/L		11/21/22 04:36	12/07/22 13:58	1
Molybdenum	**0.0050**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:58	1
Selenium	**0.30**	**D1**	0.0010	mg/L		11/21/22 04:36	12/07/22 14:04	2
Thallium	**0.0011**		0.00010	mg/L		11/21/22 04:36	12/07/22 13:58	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	**910**		6.0	mg/L			11/23/22 20:29	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 20:29	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**910**		6.0	mg/L			11/23/22 20:29	1

Client Sample ID: FC-CCR-MW56-1122
Lab Sample ID: 550-193775-18

Date Collected: 11/15/22 11:58
Matrix: Water
Date Received: 11/16/22 14:18

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 20:29	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 20:29	1
Total Dissolved Solids (SM 2540C)	**32000**	**D2**	200	mg/L			11/22/22 17:21	1
pH (SM 4500 H+ B)	**7.4**	**H5**	1.7	SU			11/17/22 14:03	1
Temperature (SM 4500 H+ B)	**10.0**	**H5 T5**	0.1	Degrees C			11/17/22 14:03	1

Client Sample ID: FC-CCR-FD05-1122
Lab Sample ID: 550-193775-19

Date Collected: 11/11/22 11:11
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.9**		0.050	mg/L		11/21/22 05:11	11/22/22 17:52	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.0013**		0.00050	mg/L		11/21/22 04:36	12/05/22 16:25	1
Molybdenum	**0.0034**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:20	1

Client Sample ID: FC-CCR-FD06-1122
Lab Sample ID: 550-193775-20

Date Collected: 11/10/22 09:42
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**22**		0.050	mg/L		11/21/22 05:11	11/22/22 17:55	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.0015**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:23	1
Molybdenum	**0.0060**		0.00050	mg/L		11/21/22 04:36	12/07/22 13:23	1

Client Sample ID: FC-CCR-MW571122
Lab Sample ID: 550-193775-21

Date Collected: 11/15/22 14:32
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**670**	**D2**	20	mg/L			12/01/22 21:24	10
Fluoride	ND	D1 D5	4.0	mg/L			12/01/22 21:24	10
Sulfate	**9600**	**D2**	400	mg/L			12/01/22 21:52	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:11	11/22/22 17:58	1
Lithium	**0.51**	**M2**	0.020	mg/L		11/30/22 20:14	12/01/22 20:03	1
Boron	**1.3**		0.050	mg/L		11/21/22 05:11	11/22/22 17:58	1
Calcium	**460**		2.0	mg/L		11/21/22 05:11	11/22/22 17:58	1
Iron	**0.14**		0.10	mg/L		11/21/22 05:11	11/22/22 17:58	1
Magnesium	**1000**	**D2**	10	mg/L		11/21/22 05:11	11/23/22 20:39	5

Client Sample ID: FC-CCR-MW571122

Lab Sample ID: 550-193775-21

Date Collected: 11/15/22 14:32
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.051		0.010	mg/L		11/21/22 05:11	11/23/22 23:51	1
Potassium	50	B7	0.50	mg/L		11/21/22 05:11	11/22/22 17:58	1
Sodium	2600	D2	2.5	mg/L		11/21/22 05:11	11/23/22 20:39	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1	0.0020	mg/L		11/21/22 04:36	12/07/22 14:06	2
Arsenic	0.0060	D1	0.0010	mg/L		11/21/22 04:36	12/07/22 14:06	2
Barium	0.018	D1	0.0010	mg/L		11/21/22 04:36	12/07/22 14:06	2
Cadmium	ND	D1	0.00020	mg/L		11/21/22 04:36	12/07/22 14:06	2
Chromium	ND	D1	0.0020	mg/L		11/21/22 04:36	12/07/22 14:06	2
Cobalt	ND	D1	0.0010	mg/L		11/21/22 04:36	12/07/22 14:06	2
Lead	ND		0.00050	mg/L		11/21/22 04:36	12/07/22 14:00	1
Molybdenum	0.0024	D1	0.0010	mg/L		11/21/22 04:36	12/07/22 14:06	2
Selenium	0.0018	D1	0.0010	mg/L		11/21/22 04:36	12/07/22 14:06	2
Thallium	ND		0.00010	mg/L		11/21/22 04:36	12/07/22 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	500		6.0	mg/L			11/23/22 20:42	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 20:42	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	500		6.0	mg/L			11/23/22 20:42	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 20:42	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 20:42	1
Total Dissolved Solids (SM 2540C)	17000	D2	200	mg/L			11/22/22 17:21	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			11/17/22 14:04	1
Temperature (SM 4500 H+ B)	10.2	H5 T5	0.1	Degrees C			11/17/22 14:04	1

Client Sample ID: FC-CCR-MW60-1122

Lab Sample ID: 550-193775-22

Date Collected: 11/10/22 10:48
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	60		0.050	mg/L		11/21/22 05:35	11/22/22 15:39	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.23		0.00050	mg/L		11/21/22 09:27	12/05/22 14:34	1
Molybdenum	0.19		0.00050	mg/L		11/21/22 09:27	12/05/22 14:34	1

Client Sample ID: FC-CCR-MW77S-1122

Lab Sample ID: 550-193775-23

Date Collected: 11/10/22 14:00
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.7		0.050	mg/L		11/21/22 05:35	11/22/22 15:42	1

Client Sample ID: FC-CCR-MW77S-1122
Lab Sample ID: 550-193775-23

Date Collected: 11/10/22 14:00
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0071		0.00050		mg/L		11/21/22 09:27	12/05/22 14:37	1
Molybdenum	0.017		0.00050		mg/L		11/21/22 09:27	12/05/22 14:37	1

Client Sample ID: FC-CCR-MW78S-1122
Lab Sample ID: 550-193775-24

Date Collected: 11/10/22 14:45
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.5		0.050		mg/L		11/21/22 05:35	11/22/22 15:45	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0035		0.00050		mg/L		11/21/22 09:27	12/05/22 14:39	1
Molybdenum	0.0098		0.00050		mg/L		11/21/22 09:27	12/05/22 14:39	1

Client Sample ID: FC-CCR-MW79S-1122
Lab Sample ID: 550-193775-25

Date Collected: 11/10/22 16:02
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	11		0.050		mg/L		11/21/22 05:35	11/22/22 15:48	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0042		0.00050		mg/L		11/21/22 09:27	12/05/22 14:41	1
Molybdenum	0.0050		0.00050		mg/L		11/21/22 09:27	12/05/22 14:41	1

Client Sample ID: FC-CCR-MW81-1122
Lab Sample ID: 550-193775-26

Date Collected: 11/10/22 15:22
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	43	M3	0.050		mg/L		11/21/22 05:41	11/22/22 14:31	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.020		0.00050		mg/L		11/21/22 09:32	12/05/22 14:14	1
Molybdenum	0.0025		0.00050		mg/L		11/21/22 09:32	12/05/22 14:14	1

Client Sample ID: FC-CCR-FD07-1122
Lab Sample ID: 550-193775-27

Date Collected: 11/10/22 11:10
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	42		0.050		mg/L		11/21/22 05:35	11/22/22 15:50	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-FD07-1122

Lab Sample ID: 550-193775-27
Date Collected: 11/10/22 11:10
Matrix: Water
Date Received: 11/16/22 14:18

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.023		0.00050		mg/L		11/21/22 09:27	12/05/22 14:43	1
Molybdenum	0.0025		0.00050		mg/L		11/21/22 09:27	12/05/22 14:43	1

Client Sample ID: FC-CCR-SUMP1-1122

Lab Sample ID: 550-193775-28
Date Collected: 11/15/22 07:30
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	490	D2	400		mg/L			11/28/22 18:51	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	72		0.050		mg/L		11/21/22 05:35	11/22/22 15:53	1
Iron	0.11		0.10		mg/L		11/21/22 05:35	11/22/22 15:53	1
Magnesium	530		2.0		mg/L		11/21/22 05:35	11/22/22 15:53	1
Manganese	ND		0.010		mg/L		11/21/22 05:35	11/22/22 15:53	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.056		0.00050		mg/L		11/21/22 09:27	12/05/22 14:45	1
Molybdenum	0.19		0.00050		mg/L		11/21/22 09:27	12/05/22 14:45	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	8400	D2 H1	100		mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP2-1122

Lab Sample ID: 550-193775-29
Date Collected: 11/15/22 07:51
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	520	D2	400		mg/L			11/28/22 19:10	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	36		0.050		mg/L		11/21/22 05:35	11/22/22 15:56	1
Iron	9.2		0.10		mg/L		11/21/22 05:35	11/22/22 15:56	1
Magnesium	470		2.0		mg/L		11/21/22 05:35	11/22/22 15:56	1
Manganese	0.12		0.010		mg/L		11/21/22 05:35	11/22/22 15:56	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0028		0.00050		mg/L		11/21/22 09:27	12/05/22 14:47	1
Molybdenum	0.0059		0.00050		mg/L		11/21/22 09:27	12/05/22 14:47	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	7600	D2 H1	100		mg/L			11/23/22 18:16	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP3-1122

Lab Sample ID: 550-193775-30
Date Collected: 11/15/22 08:27
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	680	D2	400	mg/L			11/28/22 19:28	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	35		0.050	mg/L		11/21/22 05:35	11/22/22 15:59	1
Iron	5.0		0.10	mg/L		11/21/22 05:35	11/22/22 15:59	1
Magnesium	1100	D2	8.0	mg/L		11/21/22 05:35	11/23/22 19:19	4
Manganese	0.72		0.010	mg/L		11/21/22 05:35	11/22/22 15:59	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0042		0.00050	mg/L		11/21/22 09:27	12/05/22 14:49	1
Molybdenum	0.015		0.00050	mg/L		11/21/22 09:27	12/05/22 14:49	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	20000	D2 H1	200	mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP7-1122

Lab Sample ID: 550-193775-31
Date Collected: 11/15/22 08:49
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	650	D2	400	mg/L			11/28/22 19:46	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	57		0.050	mg/L		11/21/22 05:35	11/22/22 16:02	1
Iron	0.55		0.10	mg/L		11/21/22 05:35	11/22/22 16:02	1
Magnesium	780		2.0	mg/L		11/21/22 05:35	11/22/22 16:02	1
Manganese	0.085		0.010	mg/L		11/21/22 05:35	11/22/22 16:02	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.074		0.00050	mg/L		11/21/22 09:27	12/05/22 14:51	1
Molybdenum	0.0042		0.00050	mg/L		11/21/22 09:27	12/05/22 14:51	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	9800	D2 H1	100	mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP8-1122

Lab Sample ID: 550-193775-32
Date Collected: 11/15/22 08:40
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	750	D2	400	mg/L			11/28/22 20:05	200

Client Sample ID: FC-CCR-SUMP8-1122

Lab Sample ID: 550-193775-32

Date Collected: 11/15/22 08:40
Matrix: Water
Date Received: 11/16/22 14:18

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	39		0.050	mg/L		11/21/22 05:35	11/22/22 16:10	1
Iron	0.56		0.10	mg/L		11/21/22 05:35	11/22/22 16:10	1
Magnesium	1500	D2	8.0	mg/L		11/21/22 05:35	11/23/22 19:22	4
Manganese	ND		0.010	mg/L		11/21/22 05:35	11/22/22 16:10	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.027		0.00050	mg/L		11/21/22 09:27	12/05/22 15:00	1
Molybdenum	0.0039		0.00050	mg/L		11/21/22 09:27	12/05/22 15:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	17000	D2 H1	200	mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP9-1122

Lab Sample ID: 550-193775-33

Date Collected: 11/15/22 09:00
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	580	D2	400	mg/L			11/28/22 20:23	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	28		0.050	mg/L		11/21/22 05:35	11/22/22 16:13	1
Iron	0.27		0.10	mg/L		11/21/22 05:35	11/22/22 16:13	1
Magnesium	790		2.0	mg/L		11/21/22 05:35	11/22/22 16:13	1
Manganese	ND		0.010	mg/L		11/21/22 05:35	11/22/22 16:13	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.021		0.00050	mg/L		11/21/22 09:27	12/05/22 15:02	1
Molybdenum	0.0010		0.00050	mg/L		11/21/22 09:27	12/05/22 15:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	10000	D2 H1	100	mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP10-1122

Lab Sample ID: 550-193775-34

Date Collected: 11/15/22 09:12
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	490	D2	400	mg/L			11/28/22 20:42	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	51		0.050	mg/L		11/21/22 05:35	11/22/22 16:16	1
Iron	0.61		0.10	mg/L		11/21/22 05:35	11/22/22 16:16	1
Magnesium	470		2.0	mg/L		11/21/22 05:35	11/22/22 16:16	1
Manganese	0.019		0.010	mg/L		11/21/22 05:35	11/22/22 16:16	1

Client Sample ID: FC-CCR-SUMP10-1122 — Lab Sample ID: 550-193775-34

Date Collected: 11/15/22 09:12 — **Matrix: Water**
Date Received: 11/16/22 14:18

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.18		0.00050		mg/L		11/21/22 09:27	12/05/22 15:04	1
Molybdenum	0.0013		0.00050		mg/L		11/21/22 09:27	12/05/22 15:04	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	7300	D2 H1	100		mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP11-1122 — Lab Sample ID: 550-193775-35

Date Collected: 11/15/22 09:22 — **Matrix: Water**
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	480	D2	400		mg/L			11/28/22 15:10	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	52		0.050		mg/L		11/21/22 05:35	11/22/22 16:19	1
Iron	0.47		0.10		mg/L		11/21/22 05:35	11/22/22 16:19	1
Magnesium	510		2.0		mg/L		11/21/22 05:35	11/22/22 16:19	1
Manganese	0.019		0.010		mg/L		11/21/22 05:35	11/22/22 16:19	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.16		0.00050		mg/L		11/21/22 09:27	12/05/22 15:06	1
Molybdenum	0.00082		0.00050		mg/L		11/21/22 09:27	12/05/22 15:06	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	7400	D2 H1	100		mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP12-1122 — Lab Sample ID: 550-193775-36

Date Collected: 11/15/22 09:32 — **Matrix: Water**
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	510	D2	400		mg/L			11/28/22 15:29	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	35		0.050		mg/L		11/21/22 05:35	11/22/22 16:22	1
Iron	0.25		0.10		mg/L		11/21/22 05:35	11/22/22 16:22	1
Magnesium	730		2.0		mg/L		11/21/22 05:35	11/22/22 16:22	1
Manganese	ND		0.010		mg/L		11/21/22 05:35	11/22/22 16:22	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.057		0.00050		mg/L		11/21/22 09:27	12/05/22 15:08	1
Molybdenum	0.00088		0.00050		mg/L		11/21/22 09:27	12/05/22 15:08	1

Client Sample ID: FC-CCR-SUMP12-1122

Lab Sample ID: 550-193775-36

Date Collected: 11/15/22 09:32
Matrix: Water
Date Received: 11/16/22 14:18

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	8900	D2 H1	100	mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP13-1122

Lab Sample ID: 550-193775-37

Date Collected: 11/15/22 09:40
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	520	D2	400	mg/L			11/28/22 15:47	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	34		0.050	mg/L		11/21/22 05:35	11/22/22 16:24	1
Iron	0.11		0.10	mg/L		11/21/22 05:35	11/22/22 16:24	1
Magnesium	670		2.0	mg/L		11/21/22 05:35	11/22/22 16:24	1
Manganese	ND		0.010	mg/L		11/21/22 05:35	11/22/22 16:24	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.057		0.00050	mg/L		11/21/22 09:27	12/05/22 15:10	1
Molybdenum	0.0013		0.00050	mg/L		11/21/22 09:27	12/05/22 15:10	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	8500	D2 H1	100	mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP15-1122

Lab Sample ID: 550-193775-38

Date Collected: 11/15/22 10:05
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	610	D2	400	mg/L			11/28/22 16:05	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	21		0.050	mg/L		11/21/22 05:35	11/22/22 16:27	1
Iron	0.76		0.10	mg/L		11/21/22 05:35	11/22/22 16:27	1
Magnesium	1100	D2	8.0	mg/L		11/21/22 05:35	11/23/22 19:25	4
Manganese	ND		0.010	mg/L		11/21/22 05:35	11/22/22 16:27	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.084		0.00050	mg/L		11/21/22 09:27	12/05/22 15:12	1
Molybdenum	0.013		0.00050	mg/L		11/21/22 09:27	12/05/22 15:12	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	13000	D2 H1	100	mg/L			11/23/22 18:16	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP16-1122

Lab Sample ID: 550-193775-39
Date Collected: 11/15/22 10:10
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	630	D2	400	mg/L			11/28/22 16:24	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	10		0.050	mg/L		11/21/22 05:35	11/22/22 16:30	1
Iron	1.5		0.10	mg/L		11/21/22 05:35	11/22/22 16:30	1
Magnesium	2400	D2	8.0	mg/L		11/21/22 05:35	11/23/22 19:28	4
Manganese	ND		0.010	mg/L		11/21/22 05:35	11/22/22 16:30	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.018		0.00050	mg/L		11/21/22 09:27	12/05/22 15:14	1
Molybdenum	0.0023		0.00050	mg/L		11/21/22 09:27	12/05/22 15:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	12000	D2 H1	100	mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP17-1122

Lab Sample ID: 550-193775-40
Date Collected: 11/15/22 10:17
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	mg/L			11/28/22 16:42	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.5		0.050	mg/L		11/21/22 05:35	11/22/22 16:33	1
Iron	1.1		0.10	mg/L		11/21/22 05:35	11/22/22 16:33	1
Magnesium	3300	D2	10	mg/L		11/21/22 05:35	11/23/22 19:31	5
Manganese	0.013		0.010	mg/L		11/21/22 05:35	11/22/22 16:33	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00097		0.00050	mg/L		11/21/22 09:27	12/05/22 15:16	1
Molybdenum	0.0032		0.00050	mg/L		11/21/22 09:27	12/05/22 15:16	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	34000	D2 H1	200	mg/L			11/23/22 18:16	1

Client Sample ID: FC-CCR-SUMP18-1122

Lab Sample ID: 550-193775-41
Date Collected: 11/15/22 10:25
Matrix: Water
Date Received: 11/16/22 14:18

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	mg/L			11/28/22 21:00	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP18-1122

Lab Sample ID: 550-193775-41

Date Collected: 11/15/22 10:25
Date Received: 11/16/22 14:18

Matrix: Water

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.9		0.050		mg/L		11/21/22 05:35	11/22/22 16:36	1
Iron	0.49		0.10		mg/L		11/21/22 05:35	11/22/22 16:36	1
Magnesium	3600	D2	10		mg/L		11/21/22 05:35	11/23/22 19:34	5
Manganese	0.038		0.010		mg/L		11/21/22 05:35	11/22/22 16:36	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00089		0.00050		mg/L		11/21/22 09:27	12/05/22 15:18	1
Molybdenum	0.0034		0.00050		mg/L		11/21/22 09:27	12/05/22 15:18	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	38000	D2 H1	200		mg/L			11/23/22 18:16	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-288841/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/16/22 11:16	1
Fluoride	ND		0.40		mg/L			11/16/22 11:16	1
Sulfate	ND		2.0		mg/L			11/16/22 11:16	1

Lab Sample ID: LCS 550-288841/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		104	90 - 110		
Fluoride			4.00	4.24		mg/L		106	90 - 110		
Sulfate			20.0	20.5		mg/L		103	90 - 110		

Lab Sample ID: LCSD 550-288841/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride			4.00	4.19		mg/L		105	90 - 110	1	20
Sulfate			20.0	20.5		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-193741-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride	ND		4.00	4.43		mg/L		106	80 - 120		

Lab Sample ID: 550-193741-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	650	D2	200	859	D2	mg/L		103	80 - 120		
Sulfate	130	D2	200	345	D2	mg/L		106	80 - 120		

Lab Sample ID: 550-193741-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	ND		4.00	4.52		mg/L		108	80 - 120	2	20

Lab Sample ID: 550-193741-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	650	D2	200	860	D2	mg/L		104	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-193741-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	130	D2	200	346	D2	mg/L		107	80 - 120	0	20

Lab Sample ID: MB 550-289530/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289530

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/28/22 10:50	1

Lab Sample ID: LCS 550-289530/11 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289530

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		

Lab Sample ID: LCSD 550-289530/12 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289530

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-193990-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289530

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	250	D1	200	472	D1	mg/L		109	80 - 120		

Lab Sample ID: 550-193990-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289530

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	D1	200	471	D1	mg/L		109	80 - 120	0	20

Lab Sample ID: MB 550-289643/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/29/22 10:49	1
Fluoride	ND		0.40		mg/L			11/29/22 10:49	1
Sulfate	ND		2.0		mg/L			11/29/22 10:49	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-289643/11 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.4		mg/L		102	90 - 110		
Fluoride			4.00	4.06		mg/L		102	90 - 110		
Sulfate			20.0	20.9	N1	mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-289643/10 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride			4.00	4.18		mg/L		104	90 - 110	3	20

Lab Sample ID: 550-193769-A-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	46	D1	200	257	D1	mg/L		105	80 - 120		
Fluoride	ND	D1	40.0	43.8	D1	mg/L		105	80 - 120		
Sulfate	230	D2	200	438	D2	mg/L		105	80 - 120		

Lab Sample ID: 550-193769-A-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	46	D1	200	256	D1	mg/L		105	80 - 120	0	20
Fluoride	ND	D1	40.0	43.9	D1	mg/L		105	80 - 120	0	20
Sulfate	230	D2	200	437	D2	mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-289768/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/30/22 10:44	1
Fluoride	ND		0.40		mg/L			11/30/22 10:44	1
Sulfate	ND		2.0		mg/L			11/30/22 10:44	1

Lab Sample ID: LCS 550-289768/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.7		mg/L		104	90 - 110		
Fluoride			4.00	4.15		mg/L		104	90 - 110		
Sulfate			20.0	21.0		mg/L		105	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-289768/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.18		mg/L		105	90 - 110	1	20
Sulfate			20.0	21.5		mg/L		108	90 - 110	3	20

Lab Sample ID: 550-193762-G-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	170	D1	100	285	D1	mg/L		115	80 - 120		
Fluoride	ND	D1 D5	20.0	21.5	D1	mg/L		102	80 - 120		
Sulfate	3200	E2 M3 D1	100	3250	D1 E2 M3	mg/L		65	80 - 120		

Lab Sample ID: 550-193762-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	170	D1	100	289	D1	mg/L		119	80 - 120	1	20
Fluoride	ND	D1 D5	20.0	21.5	D1	mg/L		102	80 - 120	0	20
Sulfate	3200	E2 M3 D1	100	3290	D1 E2 M3	mg/L		106	80 - 120	1	20

Lab Sample ID: MB 550-289876/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289876

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			12/01/22 11:10	1
Fluoride	ND		0.40		mg/L			12/01/22 11:10	1

Lab Sample ID: LCS 550-289876/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289876

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.9		mg/L		105	90 - 110		
Fluoride			4.00	4.20		mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-289876/7 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289876

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	1	20
Fluoride			4.00	4.22		mg/L		106	90 - 110	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-194256-H-5 MS
Matrix: Water
Analysis Batch: 289876

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	260	D2	200	489	D2	mg/L		114	80 - 120
Fluoride	ND	D1 D5	40.0	43.6	D1	mg/L		109	80 - 120

Lab Sample ID: 550-194256-H-5 MSD
Matrix: Water
Analysis Batch: 289876

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	260	D2	200	489	D2	mg/L		114	80 - 120	0	20
Fluoride	ND	D1 D5	40.0	43.4	D1	mg/L		108	80 - 120	0	20

Lab Sample ID: MB 550-289877/2
Matrix: Water
Analysis Batch: 289877

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			12/01/22 10:42	1
Fluoride	ND		0.40		mg/L			12/01/22 10:42	1
Sulfate	ND		2.0		mg/L			12/01/22 10:42	1

Lab Sample ID: LCS 550-289877/5
Matrix: Water
Analysis Batch: 289877

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.13		mg/L		103	90 - 110
Sulfate	20.0	20.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-289877/6
Matrix: Water
Analysis Batch: 289877

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.17		mg/L		104	90 - 110	1	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	1	20

Lab Sample ID: 550-194256-H-7 MS
Matrix: Water
Analysis Batch: 289877

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	380	D2	200	606	D2	mg/L		112	80 - 120
Fluoride	ND	D1 D5	40.0	42.0	D1	mg/L		105	80 - 120
Sulfate	46	D1	200	253	D1	mg/L		103	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-194256-H-7 MSD
Matrix: Water
Analysis Batch: 289877

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	380	D2	200	602	D2	mg/L		110	80 - 120	1	20
Fluoride	ND	D1 D5	40.0	41.9	D1	mg/L		105	80 - 120	0	20
Sulfate	46	D1	200	252	D1	mg/L		103	80 - 120	1	20

Lab Sample ID: MB 550-289993/2
Matrix: Water
Analysis Batch: 289993

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			12/02/22 10:51	1
Fluoride	ND		0.40		mg/L			12/02/22 10:51	1
Sulfate	ND		2.0		mg/L			12/02/22 10:51	1

Lab Sample ID: LCS 550-289993/6
Matrix: Water
Analysis Batch: 289993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.6		mg/L		103	90 - 110		
Fluoride			4.00	4.13		mg/L		103	90 - 110		
Sulfate			20.0	21.2		mg/L		106	90 - 110		

Lab Sample ID: LCSD 550-289993/7
Matrix: Water
Analysis Batch: 289993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.4		mg/L		102	90 - 110	1	20
Fluoride			4.00	4.09		mg/L		102	90 - 110	1	20
Sulfate			20.0	20.7		mg/L		104	90 - 110	2	20

Lab Sample ID: 550-194261-A-1 MS
Matrix: Water
Analysis Batch: 289993

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	240	D2	200	461	D2	mg/L		110	80 - 120		
Fluoride	ND	D1 D5	40.0	42.1	D1	mg/L		103	80 - 120		
Sulfate	100	D1	200	311	D1	mg/L		105	80 - 120		

Lab Sample ID: 550-194261-A-1 MSD
Matrix: Water
Analysis Batch: 289993

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	240	D2	200	459	D2	mg/L		109	80 - 120	0	20
Fluoride	ND	D1 D5	40.0	42.4	D1	mg/L		104	80 - 120	1	20
Sulfate	100	D1	200	310	D1	mg/L		105	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-289119/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289390 — **Prep Batch: 289119**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:11	11/22/22 16:44	1
Boron	ND		0.050		mg/L		11/21/22 05:11	11/22/22 16:44	1
Calcium	ND		2.0		mg/L		11/21/22 05:11	11/22/22 16:44	1
Iron	ND		0.10		mg/L		11/21/22 05:11	11/22/22 16:44	1
Magnesium	ND		2.0		mg/L		11/21/22 05:11	11/22/22 16:44	1
Manganese	0.0553	B1	0.010		mg/L		11/21/22 05:11	11/22/22 16:44	1
Potassium	0.587	B1	0.50		mg/L		11/21/22 05:11	11/22/22 16:44	1

Lab Sample ID: MB 550-289119/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289487 — **Prep Batch: 289119**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND		2.0		mg/L		11/21/22 05:11	11/23/22 19:42	1
Sodium	ND		0.50		mg/L		11/21/22 05:11	11/23/22 19:42	1

Lab Sample ID: MB 550-289119/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289571 — **Prep Batch: 289119**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		0.010		mg/L		11/21/22 05:11	11/28/22 16:56	1

Lab Sample ID: LCS 550-289119/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289390 — **Prep Batch: 289119**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	1.10		mg/L		110	85 - 115		
Boron			1.00	1.01		mg/L		101	85 - 115		
Calcium			21.0	22.2		mg/L		106	85 - 115		
Iron			1.00	1.04		mg/L		104	85 - 115		
Magnesium			21.0	21.6		mg/L		103	85 - 115		
Manganese			1.00	1.13		mg/L		113	85 - 115		
Potassium			20.0	20.3		mg/L		102	85 - 115		

Lab Sample ID: LCS 550-289119/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289487 — **Prep Batch: 289119**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Magnesium			21.0	21.0		mg/L		100	85 - 115		
Sodium			20.0	19.9		mg/L		99	85 - 115		

Lab Sample ID: LCSD 550-289119/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289390 — **Prep Batch: 289119**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.09		mg/L		109	85 - 115	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-289119/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289390 — **Prep Batch: 289119**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	0.998		mg/L		100	85 - 115	2	20
Calcium	21.0	22.0		mg/L		105	85 - 115	1	20
Iron	1.00	1.04		mg/L		104	85 - 115	0	20
Magnesium	21.0	21.4		mg/L		102	85 - 115	1	20
Manganese	1.00	1.01		mg/L		101	85 - 115	11	20
Potassium	20.0	20.2		mg/L		101	85 - 115	1	20

Lab Sample ID: LCSD 550-289119/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289487 — **Prep Batch: 289119**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Magnesium	21.0	21.4		mg/L		102	85 - 115	2	20
Sodium	20.0	20.2		mg/L		101	85 - 115	2	20

Lab Sample ID: 550-193775-1 MS — **Client Sample ID: FC-CCR-DMX01-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289390 — **Prep Batch: 289119**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	80	M3	1.00	75.5	M3	mg/L		-435	70 - 130

Lab Sample ID: 550-193775-1 MSD — **Client Sample ID: FC-CCR-DMX01-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289390 — **Prep Batch: 289119**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	80	M3	1.00	72.1	M3	mg/L		-769	70 - 130	5	20

Lab Sample ID: MB 550-289120/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289389 — **Prep Batch: 289120**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		11/21/22 05:35	11/22/22 15:22	1
Iron	ND		0.10	mg/L		11/21/22 05:35	11/22/22 15:22	1
Magnesium	ND		2.0	mg/L		11/21/22 05:35	11/22/22 15:22	1
Manganese	ND		0.010	mg/L		11/21/22 05:35	11/22/22 15:22	1

Lab Sample ID: LCS 550-289120/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289389 — **Prep Batch: 289120**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	0.985		mg/L		98	85 - 115
Iron	1.00	1.00		mg/L		100	85 - 115
Magnesium	21.0	20.9		mg/L		100	85 - 115
Manganese	1.00	0.995		mg/L		100	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-289120/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289389 — **Prep Batch: 289120**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron			1.00	0.976		mg/L		98	85 - 115	1	20
Iron			1.00	1.00		mg/L		100	85 - 115	0	20
Magnesium			21.0	20.8		mg/L		99	85 - 115	1	20
Manganese			1.00	0.988		mg/L		99	85 - 115	1	20

Lab Sample ID: 550-193775-15 MS — **Client Sample ID: FC-CCR-MW30-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289389 — **Prep Batch: 289120**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron	22	M3	1.00	21.5	M3	mg/L		-5	70 - 130		

Lab Sample ID: 550-193775-15 MSD — **Client Sample ID: FC-CCR-MW30-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289389 — **Prep Batch: 289120**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	22	M3	1.00	20.7	M3	mg/L		-82	70 - 130	4	20

Lab Sample ID: MB 550-289121/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		11/21/22 05:41	11/22/22 14:17	1

Lab Sample ID: LCS 550-289121/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron			1.00	1.02		mg/L		102	85 - 115		

Lab Sample ID: LCSD 550-289121/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron			1.00	0.991		mg/L		99	85 - 115	3	20

Lab Sample ID: 550-193775-26 MS — **Client Sample ID: FC-CCR-MW81-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Boron	43	M3	1.00	42.4	M3	mg/L		-37	70 - 130		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-193775-26 MSD — **Client Sample ID: FC-CCR-MW81-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	43	M3	1.00	41.6	M3	mg/L		-119	70 - 130	2	20

Lab Sample ID: MB 280-595006/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020		mg/L		11/30/22 20:14	12/01/22 18:34	1

Lab Sample ID: LCS 280-595006/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.969		mg/L		97	90 - 112		

Lab Sample ID: LCSD 280-595006/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	0.968		mg/L		97	90 - 112	0	20

Lab Sample ID: 550-193775-21 MS — **Client Sample ID: FC-CCR-MW571122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.51	M2	2.00	1.60	M2	mg/L		54	70 - 130		

Lab Sample ID: 550-193775-21 MSD — **Client Sample ID: FC-CCR-MW571122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.51	M2	2.00	1.59	M2	mg/L		54	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-289118/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290096 — **Prep Batch: 289118**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00050		mg/L		11/21/22 04:36	12/05/22 15:27	1
Chromium	ND		0.0010		mg/L		11/21/22 04:36	12/05/22 15:27	1
Cobalt	ND		0.00050		mg/L		11/21/22 04:36	12/05/22 15:27	1
Lead	ND		0.00050		mg/L		11/21/22 04:36	12/05/22 15:27	1
Molybdenum	ND		0.00050		mg/L		11/21/22 04:36	12/05/22 15:27	1
Thallium	ND		0.00010		mg/L		11/21/22 04:36	12/05/22 15:27	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-289118/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290264 — **Prep Batch: 289118**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010		mg/L		11/21/22 04:36	12/07/22 13:29	1
Barium	ND		0.00050		mg/L		11/21/22 04:36	12/07/22 13:29	1
Cadmium	ND		0.00010		mg/L		11/21/22 04:36	12/07/22 13:29	1
Selenium	ND		0.00050		mg/L		11/21/22 04:36	12/07/22 13:29	1

Lab Sample ID: LCS 550-289118/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290096 — **Prep Batch: 289118**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.114		mg/L		114	85 - 115
Chromium	0.100	0.103		mg/L		103	85 - 115
Cobalt	0.100	0.107		mg/L		107	85 - 115
Lead	0.100	0.109		mg/L		109	85 - 115
Molybdenum	0.100	0.113		mg/L		113	85 - 115
Thallium	0.100	0.110		mg/L		110	85 - 115

Lab Sample ID: LCS 550-289118/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290264 — **Prep Batch: 289118**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.103		mg/L		103	85 - 115
Barium	0.100	0.112		mg/L		112	85 - 115
Cadmium	0.100	0.101		mg/L		101	85 - 115
Selenium	0.100	0.102		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-289118/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290096 — **Prep Batch: 289118**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.100	0.108		mg/L		108	85 - 115	5	20
Chromium	0.100	0.0978		mg/L		98	85 - 115	6	20
Cobalt	0.100	0.101		mg/L		101	85 - 115	5	20
Lead	0.100	0.0974		mg/L		97	85 - 115	11	20
Molybdenum	0.100	0.103		mg/L		103	85 - 115	10	20
Thallium	0.100	0.0981		mg/L		98	85 - 115	12	20

Lab Sample ID: LCSD 550-289118/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290264 — **Prep Batch: 289118**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.104		mg/L		104	85 - 115	1	20
Barium	0.100	0.106		mg/L		106	85 - 115	5	20
Cadmium	0.100	0.103		mg/L		103	85 - 115	2	20
Selenium	0.100	0.104		mg/L		104	85 - 115	2	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-193775-1 MS — **Client Sample ID: FC-CCR-DMX01-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290096 — **Prep Batch: 289118**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.00064		0.100	0.0916		mg/L		91	70 - 130
Molybdenum	0.0094		0.100	0.116		mg/L		107	70 - 130

Lab Sample ID: 550-193775-1 MSD — **Client Sample ID: FC-CCR-DMX01-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290096 — **Prep Batch: 289118**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.00064		0.100	0.106		mg/L		106	70 - 130	15	20
Molybdenum	0.0094		0.100	0.128		mg/L		118	70 - 130	9	20

Lab Sample ID: MB 550-289143/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290065 — **Prep Batch: 289143**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.00050		mg/L		11/21/22 09:27	12/05/22 14:22	1
Molybdenum	ND		0.00050		mg/L		11/21/22 09:27	12/05/22 14:22	1

Lab Sample ID: LCS 550-289143/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290065 — **Prep Batch: 289143**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.100	0.104		mg/L		104	85 - 115
Molybdenum	0.100	0.104		mg/L		104	85 - 115

Lab Sample ID: LCSD 550-289143/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290065 — **Prep Batch: 289143**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.100	0.104		mg/L		104	85 - 115	0	20
Molybdenum	0.100	0.102		mg/L		102	85 - 115	3	20

Lab Sample ID: 550-193775-15 MS — **Client Sample ID: FC-CCR-MW30-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290065 — **Prep Batch: 289143**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.0016		0.100	0.108		mg/L		107	70 - 130
Molybdenum	0.0056		0.100	0.130		mg/L		124	70 - 130

Lab Sample ID: 550-193775-15 MSD — **Client Sample ID: FC-CCR-MW30-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290065 — **Prep Batch: 289143**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.0016		0.100	0.102		mg/L		101	70 - 130	6	20
Molybdenum	0.0056		0.100	0.123		mg/L		117	70 - 130	6	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-289144/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290059 — **Prep Batch: 289144**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.00050		mg/L		11/21/22 09:32	12/05/22 14:03	1
Molybdenum	ND		0.00050		mg/L		11/21/22 09:32	12/05/22 14:03	1

Lab Sample ID: LCS 550-289144/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290059 — **Prep Batch: 289144**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Cobalt			0.100	0.0985		mg/L		98	85 - 115		
Molybdenum			0.100	0.0980		mg/L		98	85 - 115		

Lab Sample ID: LCSD 550-289144/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290059 — **Prep Batch: 289144**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt			0.100	0.0986		mg/L		99	85 - 115	0	20
Molybdenum			0.100	0.0987		mg/L		99	85 - 115	1	20

Lab Sample ID: 550-193775-26 MS — **Client Sample ID: FC-CCR-MW81-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290059 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Cobalt	0.020		0.100	0.112		mg/L		92	70 - 130		
Molybdenum	0.0025		0.100	0.107		mg/L		105	70 - 130		

Lab Sample ID: 550-193775-26 MSD — **Client Sample ID: FC-CCR-MW81-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290059 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.020		0.100	0.119		mg/L		99	70 - 130	6	20
Molybdenum	0.0025		0.100	0.109		mg/L		107	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-289437/31 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 21:13	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			11/23/22 21:13	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 21:13	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 21:13	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 21:13	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-289437/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 17:56	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			11/23/22 17:56	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 17:56	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 17:56	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			11/23/22 17:56	1

Lab Sample ID: LCS 550-289437/30 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	246		mg/L		98	90 - 110		

Lab Sample ID: LCS 550-289437/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	270		mg/L		108	90 - 110		

Lab Sample ID: LCSD 550-289437/17 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	244		mg/L		97	90 - 110	10	20

Lab Sample ID: LCSD 550-289437/43 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	256		mg/L		102	90 - 110	4	20

Lab Sample ID: 550-193775-6 DU — **Client Sample ID: FC-CCR-MW05-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	870			875		mg/L				1	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Bicarbonate Alkalinity as CaCO3	870			875		mg/L				1	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-193817-AB-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	150			151		mg/L				0	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Bicarbonate Alkalinity as CaCO3	150			151		mg/L				0	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-289060/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/18/22 18:55	1

Lab Sample ID: LCS 550-289060/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	990		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-289060/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	968		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-193591-B-4 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289060

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	5400	D2		5410	D2	mg/L				NC	10

Lab Sample ID: MB 550-289313/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289313

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/22/22 17:21	1

Lab Sample ID: LCS 550-289313/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289313

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	986		mg/L		99	90 - 110		

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-289313/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289313

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110	1	10

Lab Sample ID: 550-193930-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289313

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1400			1350		mg/L				0	10

Lab Sample ID: MB 550-289397/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289397

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/19/22 18:02	1

Lab Sample ID: LCS 550-289397/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289397

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	990		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-289397/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289397

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	982		mg/L		98	90 - 110	1	10

Lab Sample ID: 550-193770-A-11 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289397

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	15000	D2		14500	D2	mg/L				2	10

Lab Sample ID: MB 550-289422/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289422

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/23/22 18:16	1

Lab Sample ID: LCS 550-289422/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289422

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	982		mg/L		98	90 - 110		

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LCSD 550-289422/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289422

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	990		mg/L		99	90 - 110	1	10

Lab Sample ID: 550-193700-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289422

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1400			1420		mg/L				1	10

Lab Sample ID: 550-193775-32 DU — **Client Sample ID: FC-CCR-SUMP8-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289422

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	17000	H1 D2		17100	D2	mg/L				0.5	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-288919/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288919

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-288919/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288919

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-288919/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288919

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: 550-193506-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 288919

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.8	H5		7.8	H5	SU				0.3	5
Temperature	12.5	H5		12.6	H5	Degrees C				0.8	

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-193775-14 DU
Matrix: Water
Analysis Batch: 288919

Client Sample ID: FC-CCR-MW24-1122
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	H5		7.4	H5	SU				0.1	5
Temperature	12.3	H5 T5		12.4	H5	Degrees C				0.8	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

HPLC/IC

Analysis Batch: 288841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	300.0	
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	300.0	
MB 550-288841/2	Method Blank	Total/NA	Water	300.0	
LCS 550-288841/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-288841/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193741-F-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193741-F-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193741-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-193741-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-28	FC-CCR-SUMP1-1122	Total/NA	Water	300.0	
550-193775-29	FC-CCR-SUMP2-1122	Total/NA	Water	300.0	
550-193775-30	FC-CCR-SUMP3-1122	Total/NA	Water	300.0	
550-193775-31	FC-CCR-SUMP7-1122	Total/NA	Water	300.0	
550-193775-32	FC-CCR-SUMP8-1122	Total/NA	Water	300.0	
550-193775-33	FC-CCR-SUMP9-1122	Total/NA	Water	300.0	
550-193775-34	FC-CCR-SUMP10-1122	Total/NA	Water	300.0	
550-193775-35	FC-CCR-SUMP11-1122	Total/NA	Water	300.0	
550-193775-36	FC-CCR-SUMP12-1122	Total/NA	Water	300.0	
550-193775-37	FC-CCR-SUMP13-1122	Total/NA	Water	300.0	
550-193775-38	FC-CCR-SUMP15-1122	Total/NA	Water	300.0	
550-193775-39	FC-CCR-SUMP16-1122	Total/NA	Water	300.0	
550-193775-40	FC-CCR-SUMP17-1122	Total/NA	Water	300.0	
550-193775-41	FC-CCR-SUMP18-1122	Total/NA	Water	300.0	
MB 550-289530/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289530/11	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289530/12	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193990-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193990-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	300.0	
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	300.0	
MB 550-289643/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289643/11	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289643/10	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193769-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
550-193769-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	300.0	
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	300.0	
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	300.0	
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	300.0	
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	300.0	
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	300.0	
MB 550-289768/2	Method Blank	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 289768 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-289768/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289768/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193762-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193762-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	300.0	
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	300.0	
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	300.0	
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	300.0	
MB 550-289876/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289876/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289876/7	Lab Control Sample Dup	Total/NA	Water	300.0	
550-194256-H-5 MS	Matrix Spike	Total/NA	Water	300.0	
550-194256-H-5 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	300.0	
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	300.0	
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	300.0	
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	300.0	
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	300.0	
550-193775-21	FC-CCR-MW571122	Total/NA	Water	300.0	
550-193775-21	FC-CCR-MW571122	Total/NA	Water	300.0	
MB 550-289877/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289877/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289877/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-194256-H-7 MS	Matrix Spike	Total/NA	Water	300.0	
550-194256-H-7 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	300.0	
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	300.0	
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	300.0	
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	300.0	
MB 550-289993/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289993/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289993/7	Lab Control Sample Dup	Total/NA	Water	300.0	
550-194261-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-194261-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 289118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-1	FC-CCR-DMX01-1122	Total/NA	Water	200.8	
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	200.8	
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 289118 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-4	FC-CCR-MW01-1122	Total/NA	Water	200.8	
550-193775-5	FC-CCR-MW03-1122	Total/NA	Water	200.8	
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	200.8	
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	200.8	
550-193775-8	FC-CCR-FD04-1122	Total/NA	Water	200.8	
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	200.8	
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	200.8	
550-193775-11	FC-CCR-MW19-1122	Total/NA	Water	200.8	
550-193775-12	FC-CCR-MW21-1122	Total/NA	Water	200.8	
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	200.8	
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	200.8	
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	200.8	
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	200.8	
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	200.8	
550-193775-19	FC-CCR-FD05-1122	Total/NA	Water	200.8	
550-193775-20	FC-CCR-FD06-1122	Total/NA	Water	200.8	
550-193775-21	FC-CCR-MW571122	Total/NA	Water	200.8	
MB 550-289118/1-B	Method Blank	Total/NA	Water	200.8	
LCS 550-289118/2-B	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-289118/3-B	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193775-1 MS	FC-CCR-DMX01-1122	Total/NA	Water	200.8	
550-193775-1 MSD	FC-CCR-DMX01-1122	Total/NA	Water	200.8	

Prep Batch: 289119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-1	FC-CCR-DMX01-1122	Total/NA	Water	200.7	
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	200.7	
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	200.7	
550-193775-4	FC-CCR-MW01-1122	Total/NA	Water	200.7	
550-193775-5	FC-CCR-MW03-1122	Total/NA	Water	200.7	
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	200.7	
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	200.7	
550-193775-8	FC-CCR-FD04-1122	Total/NA	Water	200.7	
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	200.7	
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	200.7	
550-193775-11	FC-CCR-MW19-1122	Total/NA	Water	200.7	
550-193775-12	FC-CCR-MW21-1122	Total/NA	Water	200.7	
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	200.7	
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	200.7	
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	200.7	
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	200.7	
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	200.7	
550-193775-19	FC-CCR-FD05-1122	Total/NA	Water	200.7	
550-193775-20	FC-CCR-FD06-1122	Total/NA	Water	200.7	
550-193775-21	FC-CCR-MW571122	Total/NA	Water	200.7	
MB 550-289119/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-289119/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-289119/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193775-1 MS	FC-CCR-DMX01-1122	Total/NA	Water	200.7	
550-193775-1 MSD	FC-CCR-DMX01-1122	Total/NA	Water	200.7	

Metals

Prep Batch: 289120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-15	FC-CCR-MW30-1122	Total/NA	Water	200.7	
550-193775-22	FC-CCR-MW60-1122	Total/NA	Water	200.7	
550-193775-23	FC-CCR-MW77S-1122	Total/NA	Water	200.7	
550-193775-24	FC-CCR-MW78S-1122	Total/NA	Water	200.7	
550-193775-25	FC-CCR-MW79S-1122	Total/NA	Water	200.7	
550-193775-27	FC-CCR-FD07-1122	Total/NA	Water	200.7	
550-193775-28	FC-CCR-SUMP1-1122	Total/NA	Water	200.7	
550-193775-29	FC-CCR-SUMP2-1122	Total/NA	Water	200.7	
550-193775-30	FC-CCR-SUMP3-1122	Total/NA	Water	200.7	
550-193775-31	FC-CCR-SUMP7-1122	Total/NA	Water	200.7	
550-193775-32	FC-CCR-SUMP8-1122	Total/NA	Water	200.7	
550-193775-33	FC-CCR-SUMP9-1122	Total/NA	Water	200.7	
550-193775-34	FC-CCR-SUMP10-1122	Total/NA	Water	200.7	
550-193775-35	FC-CCR-SUMP11-1122	Total/NA	Water	200.7	
550-193775-36	FC-CCR-SUMP12-1122	Total/NA	Water	200.7	
550-193775-37	FC-CCR-SUMP13-1122	Total/NA	Water	200.7	
550-193775-38	FC-CCR-SUMP15-1122	Total/NA	Water	200.7	
550-193775-39	FC-CCR-SUMP16-1122	Total/NA	Water	200.7	
550-193775-40	FC-CCR-SUMP17-1122	Total/NA	Water	200.7	
550-193775-41	FC-CCR-SUMP18-1122	Total/NA	Water	200.7	
MB 550-289120/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-289120/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-289120/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193775-15 MS	FC-CCR-MW30-1122	Total/NA	Water	200.7	
550-193775-15 MSD	FC-CCR-MW30-1122	Total/NA	Water	200.7	

Prep Batch: 289121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-26	FC-CCR-MW81-1122	Total/NA	Water	200.7	
MB 550-289121/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-289121/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-289121/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193775-26 MS	FC-CCR-MW81-1122	Total/NA	Water	200.7	
550-193775-26 MSD	FC-CCR-MW81-1122	Total/NA	Water	200.7	

Prep Batch: 289143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-15	FC-CCR-MW30-1122	Total/NA	Water	200.8	
550-193775-22	FC-CCR-MW60-1122	Total/NA	Water	200.8	
550-193775-23	FC-CCR-MW77S-1122	Total/NA	Water	200.8	
550-193775-24	FC-CCR-MW78S-1122	Total/NA	Water	200.8	
550-193775-25	FC-CCR-MW79S-1122	Total/NA	Water	200.8	
550-193775-27	FC-CCR-FD07-1122	Total/NA	Water	200.8	
550-193775-28	FC-CCR-SUMP1-1122	Total/NA	Water	200.8	
550-193775-29	FC-CCR-SUMP2-1122	Total/NA	Water	200.8	
550-193775-30	FC-CCR-SUMP3-1122	Total/NA	Water	200.8	
550-193775-31	FC-CCR-SUMP7-1122	Total/NA	Water	200.8	
550-193775-32	FC-CCR-SUMP8-1122	Total/NA	Water	200.8	
550-193775-33	FC-CCR-SUMP9-1122	Total/NA	Water	200.8	
550-193775-34	FC-CCR-SUMP10-1122	Total/NA	Water	200.8	
550-193775-35	FC-CCR-SUMP11-1122	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 289143 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-36	FC-CCR-SUMP12-1122	Total/NA	Water	200.8	
550-193775-37	FC-CCR-SUMP13-1122	Total/NA	Water	200.8	
550-193775-38	FC-CCR-SUMP15-1122	Total/NA	Water	200.8	
550-193775-39	FC-CCR-SUMP16-1122	Total/NA	Water	200.8	
550-193775-40	FC-CCR-SUMP17-1122	Total/NA	Water	200.8	
550-193775-41	FC-CCR-SUMP18-1122	Total/NA	Water	200.8	
MB 550-289143/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-289143/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-289143/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193775-15 MS	FC-CCR-MW30-1122	Total/NA	Water	200.8	
550-193775-15 MSD	FC-CCR-MW30-1122	Total/NA	Water	200.8	

Prep Batch: 289144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-26	FC-CCR-MW81-1122	Total/NA	Water	200.8	
MB 550-289144/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-289144/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-289144/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193775-26 MS	FC-CCR-MW81-1122	Total/NA	Water	200.8	
550-193775-26 MSD	FC-CCR-MW81-1122	Total/NA	Water	200.8	

Analysis Batch: 289388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-26	FC-CCR-MW81-1122	Total/NA	Water	200.7 Rev 4.4	289121
MB 550-289121/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289121
LCS 550-289121/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289121
LCSD 550-289121/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-26 MS	FC-CCR-MW81-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-26 MSD	FC-CCR-MW81-1122	Total/NA	Water	200.7 Rev 4.4	289121

Analysis Batch: 289389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-15	FC-CCR-MW30-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-22	FC-CCR-MW60-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-23	FC-CCR-MW77S-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-24	FC-CCR-MW78S-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-25	FC-CCR-MW79S-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-27	FC-CCR-FD07-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-28	FC-CCR-SUMP1-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-29	FC-CCR-SUMP2-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-30	FC-CCR-SUMP3-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-31	FC-CCR-SUMP7-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-32	FC-CCR-SUMP8-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-33	FC-CCR-SUMP9-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-34	FC-CCR-SUMP10-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-35	FC-CCR-SUMP11-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-36	FC-CCR-SUMP12-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-37	FC-CCR-SUMP13-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-38	FC-CCR-SUMP15-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-39	FC-CCR-SUMP16-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-40	FC-CCR-SUMP17-1122	Total/NA	Water	200.7 Rev 4.4	289120

Metals (Continued)

Analysis Batch: 289389 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-41	FC-CCR-SUMP18-1122	Total/NA	Water	200.7 Rev 4.4	289120
MB 550-289120/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289120
LCS 550-289120/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289120
LCSD 550-289120/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-15 MS	FC-CCR-MW30-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-15 MSD	FC-CCR-MW30-1122	Total/NA	Water	200.7 Rev 4.4	289120

Analysis Batch: 289390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-1	FC-CCR-DMX01-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-4	FC-CCR-MW01-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-5	FC-CCR-MW03-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-8	FC-CCR-FD04-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-11	FC-CCR-MW19-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-19	FC-CCR-FD05-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-20	FC-CCR-FD06-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-21	FC-CCR-MW571122	Total/NA	Water	200.7 Rev 4.4	289119
MB 550-289119/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289119
LCS 550-289119/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289119
LCSD 550-289119/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-1 MS	FC-CCR-DMX01-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-1 MSD	FC-CCR-DMX01-1122	Total/NA	Water	200.7 Rev 4.4	289119

Analysis Batch: 289486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-30	FC-CCR-SUMP3-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-32	FC-CCR-SUMP8-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-38	FC-CCR-SUMP15-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-39	FC-CCR-SUMP16-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-40	FC-CCR-SUMP17-1122	Total/NA	Water	200.7 Rev 4.4	289120
550-193775-41	FC-CCR-SUMP18-1122	Total/NA	Water	200.7 Rev 4.4	289120

Analysis Batch: 289487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	200.7 Rev 4.4	289119

Metals (Continued)

Analysis Batch: 289487 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-12	FC-CCR-MW21-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-21	FC-CCR-MW571122	Total/NA	Water	200.7 Rev 4.4	289119
MB 550-289119/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289119
LCS 550-289119/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289119
LCSD 550-289119/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289119

Analysis Batch: 289492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	200.7 Rev 4.4	289119
550-193775-21	FC-CCR-MW571122	Total/NA	Water	200.7 Rev 4.4	289119

Analysis Batch: 289571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-289119/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289119

Analysis Batch: 290059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-26	FC-CCR-MW81-1122	Total/NA	Water	200.8 LL	289144
MB 550-289144/1-A	Method Blank	Total/NA	Water	200.8 LL	289144
LCS 550-289144/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	289144
LCSD 550-289144/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289144
550-193775-26 MS	FC-CCR-MW81-1122	Total/NA	Water	200.8 LL	289144
550-193775-26 MSD	FC-CCR-MW81-1122	Total/NA	Water	200.8 LL	289144

Analysis Batch: 290065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-15	FC-CCR-MW30-1122	Total/NA	Water	200.8 LL	289143
550-193775-22	FC-CCR-MW60-1122	Total/NA	Water	200.8 LL	289143
550-193775-23	FC-CCR-MW77S-1122	Total/NA	Water	200.8 LL	289143
550-193775-24	FC-CCR-MW78S-1122	Total/NA	Water	200.8 LL	289143
550-193775-25	FC-CCR-MW79S-1122	Total/NA	Water	200.8 LL	289143
550-193775-27	FC-CCR-FD07-1122	Total/NA	Water	200.8 LL	289143
550-193775-28	FC-CCR-SUMP1-1122	Total/NA	Water	200.8 LL	289143
550-193775-29	FC-CCR-SUMP2-1122	Total/NA	Water	200.8 LL	289143
550-193775-30	FC-CCR-SUMP3-1122	Total/NA	Water	200.8 LL	289143
550-193775-31	FC-CCR-SUMP7-1122	Total/NA	Water	200.8 LL	289143
550-193775-32	FC-CCR-SUMP8-1122	Total/NA	Water	200.8 LL	289143
550-193775-33	FC-CCR-SUMP9-1122	Total/NA	Water	200.8 LL	289143
550-193775-34	FC-CCR-SUMP10-1122	Total/NA	Water	200.8 LL	289143
550-193775-35	FC-CCR-SUMP11-1122	Total/NA	Water	200.8 LL	289143
550-193775-36	FC-CCR-SUMP12-1122	Total/NA	Water	200.8 LL	289143
550-193775-37	FC-CCR-SUMP13-1122	Total/NA	Water	200.8 LL	289143
550-193775-38	FC-CCR-SUMP15-1122	Total/NA	Water	200.8 LL	289143

Metals (Continued)

Analysis Batch: 290065 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-39	FC-CCR-SUMP16-1122	Total/NA	Water	200.8 LL	289143
550-193775-40	FC-CCR-SUMP17-1122	Total/NA	Water	200.8 LL	289143
550-193775-41	FC-CCR-SUMP18-1122	Total/NA	Water	200.8 LL	289143
MB 550-289143/1-A	Method Blank	Total/NA	Water	200.8 LL	289143
LCS 550-289143/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	289143
LCSD 550-289143/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289143
550-193775-15 MS	FC-CCR-MW30-1122	Total/NA	Water	200.8 LL	289143
550-193775-15 MSD	FC-CCR-MW30-1122	Total/NA	Water	200.8 LL	289143

Analysis Batch: 290096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-1	FC-CCR-DMX01-1122	Total/NA	Water	200.8 LL	289118
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	200.8 LL	289118
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	200.8 LL	289118
550-193775-4	FC-CCR-MW01-1122	Total/NA	Water	200.8 LL	289118
550-193775-5	FC-CCR-MW03-1122	Total/NA	Water	200.8 LL	289118
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	200.8 LL	289118
550-193775-8	FC-CCR-FD04-1122	Total/NA	Water	200.8 LL	289118
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	200.8 LL	289118
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	200.8 LL	289118
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	200.8 LL	289118
550-193775-19	FC-CCR-FD05-1122	Total/NA	Water	200.8 LL	289118
MB 550-289118/1-B	Method Blank	Total/NA	Water	200.8 LL	289118
LCS 550-289118/2-B	Lab Control Sample	Total/NA	Water	200.8 LL	289118
LCSD 550-289118/3-B	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289118
550-193775-1 MS	FC-CCR-DMX01-1122	Total/NA	Water	200.8 LL	289118
550-193775-1 MSD	FC-CCR-DMX01-1122	Total/NA	Water	200.8 LL	289118

Analysis Batch: 290256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	200.8 LL	289118
550-193775-11	FC-CCR-MW19-1122	Total/NA	Water	200.8 LL	289118
550-193775-12	FC-CCR-MW21-1122	Total/NA	Water	200.8 LL	289118
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	200.8 LL	289118
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	200.8 LL	289118
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	200.8 LL	289118
550-193775-19	FC-CCR-FD05-1122	Total/NA	Water	200.8 LL	289118
550-193775-20	FC-CCR-FD06-1122	Total/NA	Water	200.8 LL	289118

Analysis Batch: 290264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	200.8 LL	289118
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	200.8 LL	289118
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	200.8 LL	289118
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	200.8 LL	289118
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	200.8 LL	289118
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	200.8 LL	289118
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	200.8 LL	289118
550-193775-21	FC-CCR-MW571122	Total/NA	Water	200.8 LL	289118
550-193775-21	FC-CCR-MW571122	Total/NA	Water	200.8 LL	289118
MB 550-289118/1-B	Method Blank	Total/NA	Water	200.8 LL	289118

Metals (Continued)

Analysis Batch: 290264 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-289118/2-B	Lab Control Sample	Total/NA	Water	200.8 LL	289118
LCSD 550-289118/3-B	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289118

Prep Batch: 595006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	200.7	
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	200.7	
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	200.7	
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	200.7	
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	200.7	
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	200.7	
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	200.7	
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	200.7	
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	200.7	
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	200.7	
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	200.7	
550-193775-21	FC-CCR-MW571122	Total/NA	Water	200.7	
MB 280-595006/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-595006/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-595006/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193775-21 MS	FC-CCR-MW571122	Total/NA	Water	200.7	
550-193775-21 MSD	FC-CCR-MW571122	Total/NA	Water	200.7	

Analysis Batch: 595411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-21	FC-CCR-MW571122	Total/NA	Water	200.7 Rev 4.4	595006
MB 280-595006/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	595006
LCS 280-595006/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	595006
LCSD 280-595006/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-21 MS	FC-CCR-MW571122	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-21 MSD	FC-CCR-MW571122	Total/NA	Water	200.7 Rev 4.4	595006

General Chemistry

Analysis Batch: 288919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	SM 4500 H+ B	
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	SM 4500 H+ B	
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	SM 4500 H+ B	
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 288919 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	SM 4500 H+ B	
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	SM 4500 H+ B	
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	SM 4500 H+ B	
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	SM 4500 H+ B	
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	SM 4500 H+ B	
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	SM 4500 H+ B	
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	SM 4500 H+ B	
550-193775-21	FC-CCR-MW571122	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-288919/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-288919/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-288919/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-193506-E-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-193775-14 DU	FC-CCR-MW24-1122	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 289060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	SM 2540C	
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	SM 2540C	
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	SM 2540C	
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	SM 2540C	
MB 550-289060/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289060/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289060/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193591-B-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 289313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	SM 2540C	
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	SM 2540C	
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	SM 2540C	
550-193775-21	FC-CCR-MW571122	Total/NA	Water	SM 2540C	
MB 550-289313/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289313/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289313/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193930-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 289397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	SM 2540C	
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	SM 2540C	
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	SM 2540C	
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	SM 2540C	
MB 550-289397/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289397/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289397/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193770-A-11 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 289422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-28	FC-CCR-SUMP1-1122	Total/NA	Water	SM 2540C	
550-193775-29	FC-CCR-SUMP2-1122	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 289422 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-30	FC-CCR-SUMP3-1122	Total/NA	Water	SM 2540C	
550-193775-31	FC-CCR-SUMP7-1122	Total/NA	Water	SM 2540C	
550-193775-32	FC-CCR-SUMP8-1122	Total/NA	Water	SM 2540C	
550-193775-33	FC-CCR-SUMP9-1122	Total/NA	Water	SM 2540C	
550-193775-34	FC-CCR-SUMP10-1122	Total/NA	Water	SM 2540C	
550-193775-35	FC-CCR-SUMP11-1122	Total/NA	Water	SM 2540C	
550-193775-36	FC-CCR-SUMP12-1122	Total/NA	Water	SM 2540C	
550-193775-37	FC-CCR-SUMP13-1122	Total/NA	Water	SM 2540C	
550-193775-38	FC-CCR-SUMP15-1122	Total/NA	Water	SM 2540C	
550-193775-39	FC-CCR-SUMP16-1122	Total/NA	Water	SM 2540C	
550-193775-40	FC-CCR-SUMP17-1122	Total/NA	Water	SM 2540C	
550-193775-41	FC-CCR-SUMP18-1122	Total/NA	Water	SM 2540C	
MB 550-289422/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289422/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289422/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193700-A-3 DU	Duplicate	Total/NA	Water	SM 2540C	
550-193775-32 DU	FC-CCR-SUMP8-1122	Total/NA	Water	SM 2540C	

Analysis Batch: 289437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-2	FC-CCR-DMX03-1122	Total/NA	Water	SM 2320B	
550-193775-3	FC-CCR-DMX04-1122	Total/NA	Water	SM 2320B	
550-193775-6	FC-CCR-MW05-1122	Total/NA	Water	SM 2320B	
550-193775-7	FC-CCR-MW06-1122	Total/NA	Water	SM 2320B	
550-193775-9	FC-CCR-MW17R-1122	Total/NA	Water	SM 2320B	
550-193775-10	FC-CCR-MW18-1122	Total/NA	Water	SM 2320B	
550-193775-13	FC-CCR-MW23R-1122	Total/NA	Water	SM 2320B	
550-193775-14	FC-CCR-MW24-1122	Total/NA	Water	SM 2320B	
550-193775-16	FC-CCR-MW36R-1122	Total/NA	Water	SM 2320B	
550-193775-17	FC-CCR-MW38R-1122	Total/NA	Water	SM 2320B	
550-193775-18	FC-CCR-MW56-1122	Total/NA	Water	SM 2320B	
550-193775-21	FC-CCR-MW571122	Total/NA	Water	SM 2320B	
MB 550-289437/31	Method Blank	Total/NA	Water	SM 2320B	
MB 550-289437/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-289437/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-289437/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-289437/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-289437/43	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-193775-6 DU	FC-CCR-MW05-1122	Total/NA	Water	SM 2320B	
550-193817-AB-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX01-1122

Lab Sample ID: 550-193775-1
Matrix: Water
Date Collected: 11/11/22 12:15
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 16:58
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 15:37

Client Sample ID: FC-CCR-DMX03-1122

Lab Sample ID: 550-193775-2
Matrix: Water
Date Collected: 11/11/22 15:00
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	288841	AS1	EET PHX	11/17/22 02:10
Total/NA	Analysis	300.0		200	288841	AS1	EET PHX	11/17/22 02:38
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:01
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		10	289487	CHS	EET PHX	11/23/22 19:59
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289492	CHS	EET PHX	11/23/22 23:37
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 18:46
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 15:45
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290264	ARE	EET PHX	12/07/22 13:48
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 20:01
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 13:47

Client Sample ID: FC-CCR-DMX04-1122

Lab Sample ID: 550-193775-3
Matrix: Water
Date Collected: 11/14/22 13:37
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289993	RDC	EET PHX	12/02/22 13:37
Total/NA	Analysis	300.0		5	289876	AS1	EET PHX	12/02/22 01:07
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:04
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		5	289487	CHS	EET PHX	11/23/22 20:02
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 19:06
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 15:47

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX04-1122 — Lab Sample ID: 550-193775-3

Date Collected: 11/14/22 13:37 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290264	ARE	EET PHX	12/07/22 13:50
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 20:14
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 13:48

Client Sample ID: FC-CCR-MW01-1122 — Lab Sample ID: 550-193775-4

Date Collected: 11/10/22 11:25 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:07
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 15:49

Client Sample ID: FC-CCR-MW03-1122 — Lab Sample ID: 550-193775-5

Date Collected: 11/10/22 11:56 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:10
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 15:51

Client Sample ID: FC-CCR-MW05-1122 — Lab Sample ID: 550-193775-6

Date Collected: 11/11/22 15:48 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	289768	AS1	EET PHX	11/30/22 20:06
Total/NA	Analysis	300.0		200	289768	AS1	EET PHX	11/30/22 20:34
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:12
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		20	289487	CHS	EET PHX	11/23/22 20:05
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 19:10
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 15:54
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 21:18
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 13:50

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW06-1122

Lab Sample ID: 550-193775-7
Matrix: Water
Date Collected: 11/14/22 15:17
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	289768	AS1	EET PHX	11/30/22 21:02
Total/NA	Analysis	300.0		200	289768	AS1	EET PHX	11/30/22 21:30
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:15
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		20	289487	CHS	EET PHX	11/23/22 20:07
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289492	CHS	EET PHX	11/23/22 23:40
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 19:14
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290264	ARE	EET PHX	12/07/22 13:52
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 21:47
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 13:51

Client Sample ID: FC-CCR-FD04-1122

Lab Sample ID: 550-193775-8
Matrix: Water
Date Collected: 11/11/22 09:05
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:18
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 15:58

Client Sample ID: FC-CCR-MW17R-1122

Lab Sample ID: 550-193775-9
Matrix: Water
Date Collected: 11/15/22 12:47
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	289643	AS1	EET PHX	11/29/22 21:54
Total/NA	Analysis	300.0		200	289643	AS1	EET PHX	11/29/22 22:13
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:21
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		5	289487	CHS	EET PHX	11/23/22 20:10
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 19:18
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 16:00
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290264	ARE	EET PHX	12/07/22 13:54
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 21:59

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW17R-1122 — Lab Sample ID: 550-193775-9

Date Collected: 11/15/22 12:47 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	289313	MEG	EET PHX	11/22/22 17:21 - 11/28/22 09:37 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 13:53

Client Sample ID: FC-CCR-MW18-1122 — Lab Sample ID: 550-193775-10

Date Collected: 11/14/22 12:58 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	289768	AS1	EET PHX	11/30/22 21:58
Total/NA	Analysis	300.0		200	289768	AS1	EET PHX	11/30/22 22:26
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:24
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		20	289487	CHS	EET PHX	11/23/22 20:13
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 19:22
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 16:02
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290256	ARE	EET PHX	12/07/22 13:08
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 22:06
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 13:54

Client Sample ID: FC-CCR-MW19-1122 — Lab Sample ID: 550-193775-11

Date Collected: 11/11/22 11:32 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:32
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290256	ARE	EET PHX	12/07/22 13:10

Client Sample ID: FC-CCR-MW21-1122 — Lab Sample ID: 550-193775-12

Date Collected: 11/10/22 12:33 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		5	289487	CHS	EET PHX	11/23/22 20:22
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290256	ARE	EET PHX	12/07/22 13:12

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW23R-1122

Lab Sample ID: 550-193775-13
Date Collected: 11/11/22 13:33
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289993	RDC	EET PHX	12/02/22 13:55
Total/NA	Analysis	300.0		10	289876	AS1	EET PHX	12/02/22 02:03
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:38
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		5	289487	CHS	EET PHX	11/23/22 20:24
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289492	CHS	EET PHX	11/23/22 23:45
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 19:26
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290256	ARE	EET PHX	12/07/22 13:14
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 22:22
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 13:55

Client Sample ID: FC-CCR-MW24-1122

Lab Sample ID: 550-193775-14
Date Collected: 11/14/22 14:36
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289993	RDC	EET PHX	12/02/22 14:13
Total/NA	Analysis	300.0		5	289876	AS1	EET PHX	12/02/22 02:58
Total/NA	Analysis	300.0		200	289876	AS1	EET PHX	12/02/22 03:26
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:41
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		20	289487	CHS	EET PHX	11/23/22 20:27
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 19:30
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290256	ARE	EET PHX	12/07/22 13:16
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 22:32
Total/NA	Analysis	SM 2540C		1	289397	MEG	EET PHX	11/19/22 18:02 - 11/23/22 11:00 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 13:59

Client Sample ID: FC-CCR-MW30-1122

Lab Sample ID: 550-193775-15
Date Collected: 11/10/22 13:22
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 15:36

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW30-1122

Lab Sample ID: 550-193775-15

Date Collected: 11/10/22 13:22
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 14:32

Client Sample ID: FC-CCR-MW36R-1122

Lab Sample ID: 550-193775-16

Date Collected: 11/11/22 14:20
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	289877	AS1	EET PHX	12/01/22 18:36
Total/NA	Analysis	300.0		200	289877	AS1	EET PHX	12/01/22 19:04
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:44
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		4	289487	CHS	EET PHX	11/23/22 20:30
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289492	CHS	EET PHX	11/23/22 23:48
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 19:34
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290256	ARE	EET PHX	12/07/22 13:18
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 20:51
Total/NA	Analysis	SM 2540C		1	289060	MEG	EET PHX	11/18/22 18:55 - 11/23/22 11:39 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:01

Client Sample ID: FC-CCR-MW38R-1122

Lab Sample ID: 550-193775-17

Date Collected: 11/15/22 13:33
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	289877	AS1	EET PHX	12/01/22 19:32
Total/NA	Analysis	300.0		200	289877	AS1	EET PHX	12/01/22 20:00
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:46
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		4	289487	CHS	EET PHX	11/23/22 20:33
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 19:38
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 16:21
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290264	ARE	EET PHX	12/07/22 13:56
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 20:22
Total/NA	Analysis	SM 2540C		1	289313	MEG	EET PHX	11/22/22 17:21 - 11/28/22 09:37 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:02

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW56-1122
Lab Sample ID: 550-193775-18

Date Collected: 11/15/22 11:58
Date Received: 11/16/22 14:18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1000	289993	RDC	EET PHX	12/02/22 14:32
Total/NA	Analysis	300.0		20	289877	AS1	EET PHX	12/01/22 20:28
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:49
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		10	289487	CHS	EET PHX	11/23/22 20:36
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 19:42
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290264	ARE	EET PHX	12/07/22 13:58
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		2	290264	ARE	EET PHX	12/07/22 14:04
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 20:29
Total/NA	Analysis	SM 2540C		1	289313	MEG	EET PHX	11/22/22 17:21 - 11/28/22 09:37 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:03

Client Sample ID: FC-CCR-FD05-1122
Lab Sample ID: 550-193775-19

Date Collected: 11/11/22 11:11
Date Received: 11/16/22 14:18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:52
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290096	ARE	EET PHX	12/05/22 16:25
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290256	ARE	EET PHX	12/07/22 13:20

Client Sample ID: FC-CCR-FD06-1122
Lab Sample ID: 550-193775-20

Date Collected: 11/10/22 09:42
Date Received: 11/16/22 14:18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:55
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290256	ARE	EET PHX	12/07/22 13:23

Client Sample ID: FC-CCR-MW571122
Lab Sample ID: 550-193775-21

Date Collected: 11/15/22 14:32
Date Received: 11/16/22 14:18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	289877	AS1	EET PHX	12/01/22 21:24
Total/NA	Analysis	300.0		200	289877	AS1	EET PHX	12/01/22 21:52

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW571122 — Lab Sample ID: 550-193775-21

Date Collected: 11/15/22 14:32 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289390	CHS	EET PHX	11/22/22 17:58
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		5	289487	CHS	EET PHX	11/23/22 20:39
Total/NA	Prep	200.7			289119	SGO	EET PHX	11/21/22 05:11
Total/NA	Analysis	200.7 Rev 4.4		1	289492	CHS	EET PHX	11/23/22 23:51
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 20:03
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		1	290264	ARE	EET PHX	12/07/22 14:00
Total/NA	Prep	200.8			289118	SGO	EET PHX	11/21/22 04:36
Total/NA	Analysis	200.8 LL		2	290264	ARE	EET PHX	12/07/22 14:06
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 20:42
Total/NA	Analysis	SM 2540C		1	289313	MEG	EET PHX	11/22/22 17:21 - 11/28/22 09:37 [1]
Total/NA	Analysis	SM 4500 H+ B		1	288919	MAN	EET PHX	11/17/22 14:04

Client Sample ID: FC-CCR-MW60-1122 — Lab Sample ID: 550-193775-22

Date Collected: 11/10/22 10:48 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 15:39
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 14:34

Client Sample ID: FC-CCR-MW77S-1122 — Lab Sample ID: 550-193775-23

Date Collected: 11/10/22 14:00 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 15:42
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 14:37

Client Sample ID: FC-CCR-MW78S-1122 — Lab Sample ID: 550-193775-24

Date Collected: 11/10/22 14:45 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 15:45
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 14:39

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW79S-1122 — Lab Sample ID: 550-193775-25

Date Collected: 11/10/22 16:02 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 15:48
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 14:41

Client Sample ID: FC-CCR-MW81-1122 — Lab Sample ID: 550-193775-26

Date Collected: 11/10/22 15:22 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 14:31
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		1	290059	ARE	EET PHX	12/05/22 14:14

Client Sample ID: FC-CCR-FD07-1122 — Lab Sample ID: 550-193775-27

Date Collected: 11/10/22 11:10 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 15:50
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 14:43

Client Sample ID: FC-CCR-SUMP1-1122 — Lab Sample ID: 550-193775-28

Date Collected: 11/15/22 07:30 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 18:51
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 15:53
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 14:45
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP2-1122 — Lab Sample ID: 550-193775-29

Date Collected: 11/15/22 07:51 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 19:10
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 15:56

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP2-1122
Lab Sample ID: 550-193775-29
Date Collected: 11/15/22 07:51
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 14:47
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP3-1122
Lab Sample ID: 550-193775-30
Date Collected: 11/15/22 08:27
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 19:28
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 15:59
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		4	289486	CHS	EET PHX	11/23/22 19:19
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 14:49
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP7-1122
Lab Sample ID: 550-193775-31
Date Collected: 11/15/22 08:49
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 19:46
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:02
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 14:51
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP8-1122
Lab Sample ID: 550-193775-32
Date Collected: 11/15/22 08:40
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 20:05
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:10
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		4	289486	CHS	EET PHX	11/23/22 19:22
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 15:00
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP9-1122
Lab Sample ID: 550-193775-33

Date Collected: 11/15/22 09:00
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 20:23
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:13
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 15:02
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP10-1122
Lab Sample ID: 550-193775-34

Date Collected: 11/15/22 09:12
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 20:42
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:16
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 15:04
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP11-1122
Lab Sample ID: 550-193775-35

Date Collected: 11/15/22 09:22
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 15:10
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:19
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 15:06
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP12-1122
Lab Sample ID: 550-193775-36

Date Collected: 11/15/22 09:32
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 15:29
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:22
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 15:08
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP13-1122 — Lab Sample ID: 550-193775-37

Date Collected: 11/15/22 09:40 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 15:47
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:24
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 15:10
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP15-1122 — Lab Sample ID: 550-193775-38

Date Collected: 11/15/22 10:05 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 16:05
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:27
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		4	289486	CHS	EET PHX	11/23/22 19:25
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 15:12
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP16-1122 — Lab Sample ID: 550-193775-39

Date Collected: 11/15/22 10:10 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 16:24
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:30
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		4	289486	CHS	EET PHX	11/23/22 19:28
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 15:14
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP17-1122 — Lab Sample ID: 550-193775-40

Date Collected: 11/15/22 10:17 — **Matrix: Water**
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 16:42
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:33
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		5	289486	CHS	EET PHX	11/23/22 19:31

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-SUMP17-1122

Lab Sample ID: 550-193775-40
Date Collected: 11/15/22 10:17
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 15:16
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

Client Sample ID: FC-CCR-SUMP18-1122

Lab Sample ID: 550-193775-41
Date Collected: 11/15/22 10:25
Matrix: Water
Date Received: 11/16/22 14:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	289530	AS1	EET PHX	11/28/22 21:00
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		1	289389	CHS	EET PHX	11/22/22 16:36
Total/NA	Prep	200.7			289120	SGO	EET PHX	11/21/22 05:35
Total/NA	Analysis	200.7 Rev 4.4		5	289486	CHS	EET PHX	11/23/22 19:34
Total/NA	Prep	200.8			289143	SGO	EET PHX	11/21/22 09:27
Total/NA	Analysis	200.8 LL		1	290065	ARE	EET PHX	12/05/22 15:18
Total/NA	Analysis	SM 2540C		1	289422	MEG	EET PHX	11/23/22 18:16 - 11/29/22 09:31 [1]

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	05-31-23
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22 *
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-01-24
Kansas	NELAP	E-10166	04-30-23
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Louisiana (All)	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-23
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-23
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-23
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	09-30-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-23
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-23
Wisconsin	State	999615430	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193775-1
SDG: APS Four Corners Power Plant (Other)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

550-193775 Chain of Custody

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR 193775

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 5 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Fe)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as	Sample Specific Notes:
FC-CCR-DMX01-1122 -1	11/11/2022	12:15	G	W	3	N	Y		X							X					Low Flow, MS/MSD included
FC-CCR-DMX03-1122 -2	11/11/2022	15:00	G	W	2	N	N	X						X	X			X	X	X	Low Flow
FC-CCR-DMX04-1122 -3	11/14/2022	13:37	G	W	2	N	N	X						X	X			X	X	X	"
FC-CCR-DMX06-1122	11/16/2022		G	W	2	N	N	X						X	X			X	X	X	"
FC-CCR-MW01-1122 -4	11/10/2022	11:25	G	W	1	N	N		X							X					"
FC-CCR-MW03-1122 -5	11/10/2022	11:56	G	W	1	N	N		X							X					"
FC-CCR-MW05-1122 -6	11/11/2022	15:48	G	W	2	N	N	X						X		X		X	X	X	"
FC-CCR-MW06-1122 -7	11/14/2022	15:17	G	W	2	N	N	X						X	X			X	X	X	"
FC-CCR-FD04-1122 -8	11/11/2022	9:06	G	W	1	N	N		X							X					"
							1	4	4	4	4	4	4	4	4	4	1	1	1		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.3°C, 1.1°C, 1.3°C, 1.4°C, 2.1°C ICE CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WSP	11/16/22@09:00	[signature]	A-Hot Shot	11.16.22 7:56 AM
[signature]	A-Hot Shot	11-16-2022			
		1418	Received in Laboratory by: [signature]	EETA-PHX	11/16/22 1418

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

12/8/2022

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

193775

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	2 of 5 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)					Sample Specific Notes:
FC-CCR-MW17R-1122 -9	11/15/2022	12:47	G	W	2	N	N	X						X	X			X	X	X					Low Flow
FC-CCR-MW18-1122 -10	11/14/2022	12:58	G	W	2	N	N	X						X		X		X	X	X					"
FC-CCR-MW19-1122 -11	11/11/2022	11:32	G	W	1	N	N		X							X									"
FC-CCR-MW21-1122 -12	11/10/2022	12:33	G	W	1	N	N		X							X									"
FC-CCR-MW23R-1122 -13	11/11/2022	13:33	G	W	2	N	N	X						X		X		X	X	X					"
FC-CCR-MW24-1122 -14	11/14/2022	14:36	G	W	2	N	N	X						X		X		X	X	X					"
FC-CCR-MW30-1122 -15	11/10/2022	13:22	G	W	3	N	Y		X							X									Low Flow, MS + MSD included
FC-CCR-MW36R-1122 -16	11/11/2022	14:20	G	W	2	N	N	X						X		X		X	X	X					Low Flow
FC-CCR-MW38R-1122 -17	11/15/2022	13:33	G	W	2	N	N	X						X	X			X	X	X					"
FC-CCR-MW56-1122 -18	11/15/2022	11:58	G	W	2	N	N	X						X	X			X	X	X					"
FC-CCR-FD05-1122 -19	11/11/2022	11:11	G	W	1	N	N		X							X									
FC-CCR-FD06-1122 -20	11/10/2022	9:42	G	W	1	N	N		X							X									"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	4	4	1	1	1					

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.8°C, 1.1°C, 1.3°C, 1.4°C, 2.1°C IVF CDD

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	WSP	11/16/22@0900		A-Holstat	11-16-2022 7:58 AM
Relinquished by:	A-Holstat	11-16-2022			
Relinquished by:		1416	Received in Laboratory by:	TETA-PHX	11/16/22 1418

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

12/8/2022

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

193775

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	3 of 5 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Mn, Fe)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as	Sample Specific Notes:
FC-CCR-MW57-1122 -21	11/15/2022	14:32	G	W	2	N	N	X						X	X			X	X	X	Low Flow
FC-CCR-MW60-1122 -22	11/10/2022	10:48	G	W	1	N	N		X							X					"
FC-CCR-MW77S-1122 -23	11/10/2022	14:00	G	W	1	N	N		X							X					"
FC-CCR-MW78S-1122 -24	11/10/2022	14:45	G	W	1	N	N		X							X					"
FC-CCR-MW79S-1122 -25	11/10/2022	16:02	G	W	1	N	N		X							X					"
FC-CCR-MW81-1122 -26	11/10/2022	15:22	G	W	3	N	Y		X							X					Low Flow, MS + MSD included
FC-CCR-FD07-1122 -27	11/10/2022	11:10	G	W	1	N	N		X							X					Low Flow
								1	4	4	4	4	4	4	4	4	4	1	1	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☑ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.8°C, 1.1°C, 1.3°C, 1.4°C, 2.1°C in CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WSP	11/16/22 @ 08:00	[signature]	A. Hotstat	11-16-2022 -7:58 AM
[signature]	A. Hotstat	11-16-22			
		14:18	Received in Laboratory by: [signature]	EETA-PHX	11/16/22 1418

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

193775

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	4 of 5 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl)	EPA 200.7 - Totals (B, Mg, Mn, Fe)	EPA 200.8 - Totals (Co, Mo)	SM 2540C (TDS)	Sample Specific Notes:
FC-CCR-SUMP1-1122 -28	11/15/2022	7:30	G	W	2	N	N	X	X	X	X	Grab Sample
FC-CCR-SUMP2-1122 -29	11/15/2022	7:51	G	W	2	N	N	X	X	X	X	"
FC-CCR-SUMP3-1122 -30	11/15/2022	8:27	G	W	2	N	N	X	X	X	X	"
FC-CCR-SUMP7-1122 -31	11/15/2022	8:49	G	W	2	N	N	X	X	X	X	"
FC-CCR-SUMP8-1122 -32	11/15/2022	8:40	G	W	2	N	N	X	X	X	X	"
FC-CCR-SUMP9-1122 -33	11/15/2022	9:00	G	W	2	N	N	X	X	X	X	"
FC-CCR-SUMP10-1122 -34	11/15/2022	9:12	G	W	2	N	N	X	X	X	X	"
FC-CCR-SUMP11-1122 -35	11/15/2022	9:22	G	W	2	N	N	X	X	X	X	"
FC-CCR-SUMP12-1122 -36	11/15/2022	9:32	G	W	2	N	N	X	X	X	X	"
FC-CCR-SUMP13-1122 -37	11/15/2022	9:40	G	W	2	N	N	X	X	X	X	"
FC-CCR-SUMP15-1122 -38	11/15/2022	10:05	G	W	2	N	N	X	X	X	X	"
							N					
								1	4	4	1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☑ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.8°C, 1.7°C, 1.3°C, 1.4°C, 2.1°C ICE CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	WSP	11/16/22@08:00	[signature]	A. Hotshot	11-16-2022 / 7:38 AM
[signature]	A. Hotshot	11-16-2022			
		1418	Received in Laboratory by: [signature]	EETA-PHX	11/16/22 1418

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

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4625 E Cotton Center Blvd
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Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

193775

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	5 of 5 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl)	EPA 200.7 - Totals (B, Mg, Mn, Fe)	EPA 200.8 - Totals (Co, Mo)	SM 2540C (TDS)	Sample Specific Notes:
FC-CCR-SUMP16-1122 -39	11/15/2022	10:10	G	W	2	N	N	X	X	X	X	Grab Sample
FC-CCR-SUMP17-1122 -40	11/15/2022	10:17	G	W	2	N	N	X	X	X	X	"
FC-CCR-SUMP18-1122 -41	11/15/2022	10:25	G	W	2	N	N	X	X	X	X	"
							1	4	4	1		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☑ Disposal by Lab ☑ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

ICE
0.8°C, 1.1°C, 1.3°C, 1.4°C, 2.1°C COD

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd:_____ Corr'd:_____	Therm ID No.:_____
Relinquished by:	Company: WSP	Date/Time: 11/16/22 08:00	Received by:	Company: Arizona State	Date/Time: 11.16.2022 7:58AM
Relinquished by:	Company: Arizona State	Date/Time: 11-16-22	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time: 1418	Received in Laboratory by:	Company: TEETA-PHX	Date/Time: 11/16/22 1418

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

12/8/2022

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone. 602-437-3340

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Roberts, Danielle C	Carrier Tracking No(s)	COC No: 550-35411.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-193775-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-DMX03-1122 (550-193775-2)	11/11/22	15:00 Arizona		Water			X	1	AZ Sample
FC-CCR-DMX04-1122 (550-193775-3)	11/14/22	13:37 Arizona		Water			X	1	AZ Sample
FC-CCR-MW05-1122 (550-193775-6)	11/11/22	15:48 Arizona		Water			X	1	AZ Sample
FC-CCR-MW06-1122 (550-193775-7)	11/14/22	15:17 Arizona		Water			X	1	AZ Sample
FC-CCR-MW17R-1122 (550-193775-9)	11/15/22	12:47 Arizona		Water			X	1	AZ Sample
FC-CCR-MW18-1122 (550-193775-10)	11/14/22	12:58 Arizona		Water			X	1	AZ Sample
FC-CCR-MW23R-1122 (550-193775-13)	11/11/22	13:33 Arizona		Water			X	1	AZ Sample
FC-CCR-MW24-1122 (550-193775-14)	11/14/22	14:36 Arizona		Water			X	1	AZ Sample
FC-CCR-MW36R-1122 (550-193775-16)	11/11/22	14:20 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[illegible] 11-17-22	14:45	[illegible]	Fedex		
[illegible]			[illegible]	11/18/22 0830	[illegible]

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.: 1882802
Cooler Temperature(s) °C and Other Remarks: 0.3 IR12 CF 0.0

Ver: 06/08/2021

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone 602-437-3340

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No: 550-35411 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-193775-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW38R-1122 (550-193775-17)	11/15/22	13:33 Arizona		Water			X	1	AZ Sample
FC-CCR-MW56-1122 (550-193775-18)	11/15/22	11:58 Arizona		Water			X	1	AZ Sample
FC-CCR-MW571122 (550-193775-21)	11/15/22	14:32 Arizona		Water			X	1	AZ Sample

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[illegible] 11-17-22	14:45	ETSW	Fedex		
Fedex			[illegible]	11/19/22 1030	ETA/TMW

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 0.3 IR12 CF 0.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193775-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 193775
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193775-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 193775
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 11/18/22 04:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 12/8/2022 6:21:13 AM

JOB DESCRIPTION

CCR Groundwater Moritoring
SDG NUMBER APS Four Corners Power Plant

JOB NUMBER

550-193835-1

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix AZ 85040

See page two for job notes and contact information.

my EOL

Eurofins Phoenix

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization

Generated
12/8/2022 6:21:13 AM

Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-193835-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-193835-1

Comments
No additional comments.

Receipt
The sample was received on 11/17/2022 3:15 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.1º C.

Method 300.0: The following sample was diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-MW87-1122 (550-193835-1). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2540C: Reanalysis of the following sample was performed outside the 7 day analytical holding time for Total Dissolved Solids due to yielding excessive residue in the initial analysis. The residue result was greater than the method required amount of 0.2 g; therefore the test was re-performed using a smaller sample volume. The reanalysis conformed to the method specified residue requirements. As such, the reanalysis has been qualified with an H2 and D2 flags.

FC-CCR-MW87-1122 (550-193835-1)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Moritoring

Job ID: 550-193835-1
SDG: APS Four Corners Power Plant

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-193835-1	FC-CCR-MW87-1122	Water	11/15/22 15:27	11/17/22 15:15

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Moritoring

Job ID: 550-193835-1
SDG: APS Four Corners Power Plant

Client Sample ID: FC-CCR-MW87-1122

Lab Sample ID: 550-193835-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	3500	D2	400		mg/L	200		300.0	Total/NA
Sulfate	36000	D2	2000		mg/L	1000		300.0	Total/NA
Lithium	2.8		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.5	D1	0.10		mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	500	D1	4.0		mg/L	2		200.7 Rev 4.4	Total/NA
Arsenic	0.0014	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Barium	0.0086	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00021	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0059	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.057	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.022	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00020	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	43000	D2 H2	1000		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Moritoring

Job ID: 550-193835-1
SDG: APS Four Corners Power Plant

Client Sample ID: FC-CCR-MW87-1122

Date Collected: 11/15/22 15:27
Date Received: 11/17/22 15:15

Lab Sample ID: 550-193835-1

Matrix: Water

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3500**	**D2**	400		mg/L			11/29/22 20:22	200
Fluoride	ND	D1 D5	8.0		mg/L			11/29/22 20:04	20
Sulfate	**36000**	**D2**	2000		mg/L			11/30/22 16:23	1000

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	D1	0.0020		mg/L		11/18/22 17:12	11/22/22 12:46	2
Lithium	**2.8**		0.020		mg/L		12/05/22 19:14	12/06/22 19:21	1
Boron	**1.5**	**D1**	0.10		mg/L		11/18/22 17:12	11/22/22 12:46	2
Calcium	**500**	**D1**	4.0		mg/L		11/18/22 17:12	11/22/22 12:46	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1	0.0020		mg/L		11/18/22 16:34	11/30/22 12:32	2
Arsenic	**0.0014**	**D1**	0.0010		mg/L		11/18/22 16:34	11/30/22 12:32	2
Barium	**0.0086**	**D1**	0.0010		mg/L		11/18/22 16:34	11/30/22 12:32	2
Cadmium	**0.00021**	**D1**	0.00020		mg/L		11/18/22 16:34	11/30/22 12:32	2
Chromium	ND	D1	0.0020		mg/L		11/18/22 16:34	11/30/22 12:32	2
Cobalt	**0.0059**	**D1**	0.0010		mg/L		11/18/22 16:34	11/30/22 12:32	2
Lead	ND	D1	0.0010		mg/L		11/18/22 16:34	11/30/22 12:32	2
Molybdenum	**0.057**	**D1**	0.0010		mg/L		11/18/22 16:34	11/30/22 12:32	2
Selenium	**0.022**	**D1**	0.0010		mg/L		11/18/22 16:34	11/30/22 12:32	2
Thallium	**0.00020**	**D1**	0.00020		mg/L		11/18/22 16:34	11/30/22 12:32	2

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/18/22 14:39	11/18/22 18:11	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**43000**	**D2 H2**	1000		mg/L			11/28/22 16:53	1
pH (SM 4500 H+ B)	**7.4**	**H5**	1.7		SU			11/21/22 14:54	1
Temperature (SM 4500 H+ B)	**12.6**	**H5 T5**	0.1		Degrees C			11/21/22 14:54	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-289643/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/29/22 10:49	1
Fluoride	ND		0.40		mg/L			11/29/22 10:49	1

Lab Sample ID: LCS 550-289643/11 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.4		mg/L		102	90 - 110		
Fluoride			4.00	4.06		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-289643/10 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride			4.00	4.18		mg/L		104	90 - 110	3	20

Lab Sample ID: 550-193769-A-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	46	D1	200	257	D1	mg/L		105	80 - 120		
Fluoride	ND	D1	40.0	43.8	D1	mg/L		105	80 - 120		

Lab Sample ID: 550-193769-A-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	46	D1	200	256	D1	mg/L		105	80 - 120	0	20
Fluoride	ND	D1	40.0	43.9	D1	mg/L		105	80 - 120	0	20

Lab Sample ID: MB 550-289768/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/30/22 10:44	1
Fluoride	ND		0.40		mg/L			11/30/22 10:44	1
Sulfate	ND		2.0		mg/L			11/30/22 10:44	1

Lab Sample ID: LCS 550-289768/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.7		mg/L		104	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-289768/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoride			4.00	4.15		mg/L		104	90 - 110		
Sulfate			20.0	21.0		mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-289768/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.18		mg/L		105	90 - 110	1	20
Sulfate			20.0	21.5		mg/L		108	90 - 110	3	20

Lab Sample ID: 550-193762-G-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	170	D1	100	285	D1	mg/L		115	80 - 120		
Fluoride	ND	D1 D5	20.0	21.5	D1	mg/L		102	80 - 120		
Sulfate	3200	E2 M3 D1	100	3250	D1 E2 M3	mg/L		65	80 - 120		

Lab Sample ID: 550-193762-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	170	D1	100	289	D1	mg/L		119	80 - 120	1	20
Fluoride	ND	D1 D5	20.0	21.5	D1	mg/L		102	80 - 120	0	20
Sulfate	3200	E2 M3 D1	100	3290	D1 E2 M3	mg/L		106	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-289057/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289231 — **Prep Batch: 289057**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/18/22 17:12	11/21/22 16:51	1
Boron	ND		0.050		mg/L		11/18/22 17:12	11/21/22 16:51	1
Calcium	ND		2.0		mg/L		11/18/22 17:12	11/21/22 16:51	1

Lab Sample ID: LCS 550-289057/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289231 — **Prep Batch: 289057**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	0.998		mg/L		100	85 - 115		
Boron			1.00	0.984		mg/L		98	85 - 115		
Calcium			21.0	20.3		mg/L		97	85 - 115		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-289057/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289231 — **Prep Batch: 289057**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.01		mg/L		101	85 - 115	1	20
Boron			1.00	0.975		mg/L		97	85 - 115	1	20
Calcium			21.0	20.6		mg/L		98	85 - 115	1	20

Lab Sample ID: 550-193856-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289231 — **Prep Batch: 289057**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium	ND		1.00	1.15		mg/L		115	70 - 130		
Boron	6.3	M3	1.00	6.89	M3	mg/L		55	70 - 130		
Calcium	10		21.0	32.0		mg/L		105	70 - 130		

Lab Sample ID: 550-193856-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289231 — **Prep Batch: 289057**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.13		mg/L		113	70 - 130	1	20
Boron	6.3	M3	1.00	6.89	M3	mg/L		55	70 - 130	0	20
Calcium	10		21.0	31.7		mg/L		103	70 - 130	1	20

Lab Sample ID: MB 280-595521/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595821 — **Prep Batch: 595521**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020		mg/L		12/05/22 19:14	12/06/22 18:53	1

Lab Sample ID: LCS 280-595521/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595821 — **Prep Batch: 595521**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.994		mg/L		99	90 - 112		

Lab Sample ID: LCSD 280-595521/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595821 — **Prep Batch: 595521**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	0.989		mg/L		99	90 - 112	1	20

Lab Sample ID: 280-169744-C-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595821 — **Prep Batch: 595521**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.75		1.00	1.77		mg/L		102	70 - 130		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 280-169744-C-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595821 — **Prep Batch: 595521**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.75		1.00	1.78		mg/L		103	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-289054/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/18/22 16:34	11/28/22 12:53	1
Arsenic	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Barium	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Cadmium	ND		0.00010	mg/L		11/18/22 16:34	11/28/22 12:53	1
Chromium	ND		0.0010	mg/L		11/18/22 16:34	11/28/22 12:53	1
Cobalt	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Lead	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Molybdenum	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Selenium	ND		0.00050	mg/L		11/18/22 16:34	11/28/22 12:53	1
Thallium	ND		0.00010	mg/L		11/18/22 16:34	11/28/22 12:53	1

Lab Sample ID: LCS 550-289054/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0983		mg/L		98	85 - 115
Arsenic	0.100	0.0964		mg/L		96	85 - 115
Barium	0.100	0.104		mg/L		104	85 - 115
Cadmium	0.100	0.0903		mg/L		90	85 - 115
Chromium	0.100	0.0953		mg/L		95	85 - 115
Cobalt	0.100	0.0964		mg/L		96	85 - 115
Lead	0.100	0.0955		mg/L		95	85 - 115
Molybdenum	0.100	0.0918		mg/L		92	85 - 115
Selenium	0.100	0.103		mg/L		103	85 - 115
Thallium	0.100	0.0992		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-289054/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.103		mg/L		103	85 - 115	5	20
Arsenic	0.100	0.0995		mg/L		100	85 - 115	3	20
Barium	0.100	0.112		mg/L		112	85 - 115	8	20
Cadmium	0.100	0.0966		mg/L		97	85 - 115	7	20
Chromium	0.100	0.0978		mg/L		98	85 - 115	3	20
Cobalt	0.100	0.0998		mg/L		100	85 - 115	4	20
Lead	0.100	0.100		mg/L		100	85 - 115	5	20
Molybdenum	0.100	0.0960		mg/L		96	85 - 115	4	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-289054/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium			0.100	0.102		mg/L		102	85 - 115	1	20
Thallium			0.100	0.105		mg/L		105	85 - 115	5	20

Lab Sample ID: 550-193772-B-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		0.100	0.112		mg/L		112	70 - 130		
Arsenic	0.00066		0.100	0.120		mg/L		120	70 - 130		
Barium	0.016	M1	0.100	0.137		mg/L		121	70 - 130		
Cadmium	0.00022		0.100	0.0968		mg/L		97	70 - 130		
Chromium	ND		0.100	0.105		mg/L		104	70 - 130		
Cobalt	0.13		0.100	0.226		mg/L		96	70 - 130		
Lead	0.00060		0.100	0.0957		mg/L		95	70 - 130		
Molybdenum	0.0030		0.100	0.111		mg/L		108	70 - 130		
Selenium	0.0021	M1	0.100	0.145	M1	mg/L		143	70 - 130		
Thallium	0.00031		0.100	0.0989		mg/L		99	70 - 130		

Lab Sample ID: 550-193772-B-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289509 — **Prep Batch: 289054**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.114		mg/L		114	70 - 130	2	20
Arsenic	0.00066		0.100	0.120		mg/L		119	70 - 130	0	20
Barium	0.016	M1	0.100	0.147	M1	mg/L		131	70 - 130	7	20
Cadmium	0.00022		0.100	0.0989		mg/L		99	70 - 130	2	20
Chromium	ND		0.100	0.106		mg/L		106	70 - 130	2	20
Cobalt	0.13		0.100	0.226		mg/L		96	70 - 130	0	20
Lead	0.00060		0.100	0.100		mg/L		100	70 - 130	5	20
Molybdenum	0.0030		0.100	0.113		mg/L		110	70 - 130	2	20
Selenium	0.0021	M1	0.100	0.148	M1	mg/L		146	70 - 130	2	20
Thallium	0.00031		0.100	0.102		mg/L		102	70 - 130	4	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-289038/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/18/22 14:39	11/18/22 17:53	1

Lab Sample ID: LCS 550-289038/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.00500	0.00454		mg/L		91	85 - 115		

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: LCSD 550-289038/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			0.00500	0.00481		mg/L		96	85 - 115	6	20

Lab Sample ID: 550-193828-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	0.00050		0.00500	0.00564		mg/L		103	70 - 130		

Lab Sample ID: 550-193828-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00050		0.00500	0.00575		mg/L		105	70 - 130	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-289521/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289521

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/28/22 16:53	1

Lab Sample ID: LCS 550-289521/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289521

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110		

Lab Sample ID: LCSD 550-289521/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289521

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	998		mg/L		100	90 - 110	1	10

Lab Sample ID: 550-193745-B-29 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289521

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	ND			ND		mg/L				NC	10

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Moritoring

Job ID: 550-193835-1
SDG: APS Four Corners Power Plant

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-289225/1
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.6	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-289225/13
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		100.0	98.5 - 101.5		

Lab Sample ID: 550-193822-H-1 DU
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	H5		7.4	H5	SU				0.1	5
Temperature	14.9	H5		14.8	H5	Degrees C				0.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Moritoring

Job ID: 550-193835-1
SDG: APS Four Corners Power Plant

HPLC/IC

Analysis Batch: 289643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	300.0	
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	300.0	
MB 550-289643/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289643/11	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289643/10	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193769-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
550-193769-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	300.0	
MB 550-289768/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289768/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289768/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193762-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193762-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 289038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	245.1	
MB 550-289038/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-289038/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-289038/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-193828-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-193828-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Prep Batch: 289054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	200.8	
MB 550-289054/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-289054/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-289054/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193772-B-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-193772-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 289057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	200.7	
MB 550-289057/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-289057/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-289057/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193856-A-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-193856-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 289067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	245.1	289038
MB 550-289038/1-A	Method Blank	Total/NA	Water	245.1	289038
LCS 550-289038/2-A	Lab Control Sample	Total/NA	Water	245.1	289038

Metals (Continued)

Analysis Batch: 289067 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-289038/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	289038
550-193828-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	289038
550-193828-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	289038

Analysis Batch: 289231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-289057/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289057
LCS 550-289057/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289057
LCSD 550-289057/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289057
550-193856-A-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	289057
550-193856-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	289057

Analysis Batch: 289386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	200.7 Rev 4.4	289057

Analysis Batch: 289509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-289054/1-A	Method Blank	Total/NA	Water	200.8 LL	289054
LCS 550-289054/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	289054
LCSD 550-289054/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289054
550-193772-B-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	289054
550-193772-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	289054

Analysis Batch: 289723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	200.8 LL	289054

Prep Batch: 595521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	200.7	
MB 280-595521/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-595521/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-595521/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-169744-C-1-D MS	Matrix Spike	Total/NA	Water	200.7	
280-169744-C-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 595821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	200.7 Rev 4.4	595521
MB 280-595521/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	595521
LCS 280-595521/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	595521
LCSD 280-595521/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	595521
280-169744-C-1-D MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	595521
280-169744-C-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	595521

General Chemistry

Analysis Batch: 289225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 289225 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSSRM 550-289225/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-193822-H-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 289521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193835-1	FC-CCR-MW87-1122	Total/NA	Water	SM 2540C	
MB 550-289521/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289521/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289521/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193745-B-29 DU	Duplicate	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Moritoring

Job ID: 550-193835-1
SDG: APS Four Corners Power Plant

Client Sample ID: FC-CCR-MW87-1122

Date Collected: 11/15/22 15:27
Date Received: 11/17/22 15:15

Lab Sample ID: 550-193835-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	289643	AS1	EET PHX	11/29/22 20:04
Total/NA	Analysis	300.0		200	289643	AS1	EET PHX	11/29/22 20:22
Total/NA	Analysis	300.0		1000	289768	AS1	EET PHX	11/30/22 16:23
Total/NA	Prep	200.7			289057	ABA	EET PHX	11/18/22 17:12
Total/NA	Analysis	200.7 Rev 4.4		2	289386	CHS	EET PHX	11/22/22 12:46
Total/NA	Prep	200.7			595521	LJS	EET DEN	12/05/22 19:14
Total/NA	Analysis	200.7 Rev 4.4		1	595821	KRP	EET DEN	12/06/22 19:21
Total/NA	Prep	200.8			289054	ABA	EET PHX	11/18/22 16:34
Total/NA	Analysis	200.8 LL		2	289723	ARE	EET PHX	11/30/22 12:32
Total/NA	Prep	245.1			289038	SRR	EET PHX	11/18/22 14:39
Total/NA	Analysis	245.1		1	289067	SRR	EET PHX	11/18/22 18:11
Total/NA	Analysis	SM 2540C		1	289521	AS1	EET PHX	11/28/22 16:53 - 12/02/22 17:10 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 14:54

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Moritoring

Job ID: 550-193835-1
SDG: APS Four Corners Power Plant

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	05-31-23
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22 *
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-01-24
Kansas	NELAP	E-10166	04-30-23
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Louisiana (All)	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-23
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-23
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-23
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	09-30-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-23
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-23
Wisconsin	State	999615430	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Moritoring

Job ID: 550-193835-1
SDG: APS Four Corners Power Plant

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Chain of Custody Record

588157

eurofins | Environment Testing TestAmerica

193835

TAL-8210

12/8/2022

Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact			
Company Name: ~~WSP~~ Arizona Public Service	Project Manager: Natalie Chrisman	Site Contact: Pam Norris	Date:
Address: PO Box 355 MS 4915	Tel/Email: 602-250-3608	Lab Contact: Rachel Sester	Carrier:
City/State/Zip: Fruitland NM 87416	Analysis Turnaround Time		
Phone:	☐ CALENDAR DAYS ☒ WORKING DAYS		
Fax:	TAT if different from Below _____		
Project Name: CCR Groundwater Monitoring	☒ 2 weeks		
Site: APS Four Corners Powerplant ~~(EWP)~~	☐ 1 week		
PO# 1006 17121	☐ 2 days		
	☐ 1 day		

COC No: 1 of 1 COCs

Sampler:

For Lab Use Only:
Walk-in Client:
Lab Sampling:

Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	SM 4500-H+B (pH)	SM 2540C (TDS)	EPA 200.7 (B, Ca, Fe, Li)	EPA 200.8 (Sb, As, Be, Cd)	EPA 245.1 Total Hg (Hg)	Sample Specific Notes:
FC-CCR-MW87-1122 -1	11-15-22	1527	G	W	2	N	N	X	X	X	X	X	X	

550-193835 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

1.1°C ice cpo

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Brad Hartman	WSP	11-17-22			
Relinquished by:	Company:	Date/Time: 515	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EETA-PHX	Date/Time: 11/17/22 1515

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No: 550-35428.1
Client Contact: Shipping/Receiving	Phone	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-193835-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Moritoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW87-1122 (550-193835-1)	11/15/22	15:27 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible] 11-18-22	14:40	ETSW	Fedex		
Fedex			[illegible]	11/19/22 920	ETSW

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No	1882811	2.1 IR12 CF0.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193835-1
SDG Number: APS Four Corners Power Plant

Login Number: 193835
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193835-1
SDG Number: APS Four Corners Power Plant

Login Number: 193835
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 11/19/22 01:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 12/8/2022 11:15:41 AM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Four Corners Power Plant (CWTP)

JOB NUMBER

550-193838-1

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix AZ 85040

See page two for job notes and contact information.

my EOL

Eurofins Phoenix

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization

Generated
12/8/2022 11:15:41 AM

Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-193838-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-193838-1

Comments
No additional comments.

Receipt
The samples were received on 11/17/2022 3:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.1º C.

HPLC/IC
Method 300.0: The laboratory control sample duplicate (LCSD) associated with analytical batch 550-289643 was outside acceptance criteria for Sulfate due to carry over from a previous sample injection. The results for the batch laboratory control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) were within acceptance limits and may be used to evaluate accuracy precision and matrix performance. As such, results have been reported and qualified with N1 flags on the LCS.

Method 300.0: The following sample was diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-FD08-1122 (550-193838-4). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

Method 300.0: The following samples were diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-SW1-1122 (550-193838-1), FC-CCR-SW2-1122 (550-193838-2) and FC-CCR-SW3-1122 (550-193838-3). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Methods 200.7, 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 280-595006 and analytical batch 280-595411 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-193838-1	FC-CCR-SW1-1122	Water	11/16/22 14:45	11/17/22 15:15
550-193838-2	FC-CCR-SW2-1122	Water	11/16/22 17:06	11/17/22 15:15
550-193838-3	FC-CCR-SW3-1122	Water	11/16/22 16:54	11/17/22 15:15
550-193838-4	FC-CCR-FD08-1122	Water	11/16/22 09:33	11/17/22 15:15

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW1-1122 — Lab Sample ID: 550-193838-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48	D1	10	mg/L	5		300.0	Total/NA
Sulfate	470	D2	10	mg/L	5		300.0	Total/NA
Lithium	0.085		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.35		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	89		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0023		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.22	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0053		0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	780		20	mg/L	1		SM 2540C	Total/NA
pH	8.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW2-1122 — Lab Sample ID: 550-193838-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	53	D1	10	mg/L	5		300.0	Total/NA
Sulfate	510	D2	10	mg/L	5		300.0	Total/NA
Lithium	0.090		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.37		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	89		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0021		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.21	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Lead	0.00063		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0076		0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	870		20	mg/L	1		SM 2540C	Total/NA
pH	8.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-SW3-1122 — Lab Sample ID: 550-193838-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48	D1	10	mg/L	5		300.0	Total/NA
Sulfate	460	D2	10	mg/L	5		300.0	Total/NA
Lithium	0.085		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.34		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	88		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0022		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.22	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0054		0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	810		20	mg/L	1		SM 2540C	Total/NA
pH	8.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD08-1122 — Lab Sample ID: 550-193838-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	46	D1	10	mg/L	5		300.0	Total/NA
Sulfate	430	D2	10	mg/L	5		300.0	Total/NA
Lithium	0.085		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.34		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	87		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0021		0.00050	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-FD08-1122 (Continued)

Lab Sample ID: 550-193838-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	0.21	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0051		0.00050		mg/L	1		200.8 LL	Total/NA
Mercury	0.00021		0.00020		mg/L	1		245.1	Total/NA
Total Dissolved Solids	810		20		mg/L	1		SM 2540C	Total/NA
pH	8.7	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW1-1122

Lab Sample ID: 550-193838-1
Matrix: Water

Date Collected: 11/16/22 14:45
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48	D1	10	mg/L			12/05/22 14:33	5
Fluoride	ND	D1 D5	2.0	mg/L			12/05/22 14:33	5
Sulfate	470	D2	10	mg/L			12/05/22 14:33	5

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 14:34	1
Lithium	0.085		0.020	mg/L		11/30/22 20:14	12/01/22 20:23	1
Boron	0.35		0.050	mg/L		11/21/22 05:41	11/23/22 18:37	1
Calcium	89		2.0	mg/L		11/21/22 05:41	11/22/22 14:34	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 16:04	1
Arsenic	0.0023		0.00050	mg/L		11/21/22 09:32	12/07/22 16:04	1
Barium	0.22	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:47	2
Cadmium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 16:04	1
Chromium	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 16:04	1
Cobalt	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:04	1
Lead	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:04	1
Molybdenum	0.0053		0.00050	mg/L		11/21/22 09:32	12/07/22 16:04	1
Selenium	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:04	1
Thallium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 16:04	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 14:39	11/18/22 18:13	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	780		20	mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	8.6	H5	1.7	SU			11/21/22 15:18	1
Temperature (SM 4500 H+ B)	13.4	H5 T5	0.1	Degrees C			11/21/22 15:18	1

Client Sample ID: FC-CCR-SW2-1122

Lab Sample ID: 550-193838-2
Matrix: Water

Date Collected: 11/16/22 17:06
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53	D1	10	mg/L			12/05/22 15:29	5
Fluoride	ND	D1 D5	2.0	mg/L			12/05/22 15:29	5
Sulfate	510	D2	10	mg/L			12/05/22 15:29	5

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 14:37	1
Lithium	0.090		0.020	mg/L		11/30/22 20:14	12/01/22 20:27	1
Boron	0.37		0.050	mg/L		11/21/22 05:41	11/23/22 18:40	1
Calcium	89		2.0	mg/L		11/21/22 05:41	11/22/22 14:37	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW2-1122

Lab Sample ID: 550-193838-2
Date Collected: 11/16/22 17:06
Matrix: Water
Date Received: 11/17/22 15:15

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 16:06	1
Arsenic	**0.0021**		0.00050	mg/L		11/21/22 09:32	12/07/22 16:06	1
Barium	**0.21**	**D1**	0.0010	mg/L		11/21/22 09:32	12/07/22 15:49	2
Cadmium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 16:06	1
Chromium	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 16:06	1
Cobalt	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:06	1
Lead	**0.00063**		0.00050	mg/L		11/21/22 09:32	12/07/22 16:06	1
Molybdenum	**0.0076**		0.00050	mg/L		11/21/22 09:32	12/07/22 16:06	1
Selenium	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:06	1
Thallium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 16:06	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 14:39	11/18/22 18:15	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**870**		20	mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	**8.2**	**H5**	1.7	SU			11/21/22 15:20	1
Temperature (SM 4500 H+ B)	**11.8**	**H5 T5**	0.1	Degrees C			11/21/22 15:20	1

Client Sample ID: FC-CCR-SW3-1122

Lab Sample ID: 550-193838-3
Date Collected: 11/16/22 16:54
Matrix: Water
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**48**	**D1**	10	mg/L			12/05/22 16:25	5
Fluoride	ND	D1 D5	2.0	mg/L			12/05/22 16:25	5
Sulfate	**460**	**D2**	10	mg/L			12/05/22 16:25	5

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 14:40	1
Lithium	**0.085**		0.020	mg/L		11/30/22 20:14	12/01/22 20:31	1
Boron	**0.34**		0.050	mg/L		11/21/22 05:41	11/23/22 18:43	1
Calcium	**88**		2.0	mg/L		11/21/22 05:41	11/22/22 14:40	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 16:08	1
Arsenic	**0.0022**		0.00050	mg/L		11/21/22 09:32	12/07/22 16:08	1
Barium	**0.22**	**D1**	0.0010	mg/L		11/21/22 09:32	12/07/22 15:51	2
Cadmium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 16:08	1
Chromium	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 16:08	1
Cobalt	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:08	1
Lead	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:08	1
Molybdenum	**0.0054**		0.00050	mg/L		11/21/22 09:32	12/07/22 16:08	1
Selenium	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:08	1
Thallium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 16:08	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW3-1122

Lab Sample ID: 550-193838-3
Date Collected: 11/16/22 16:54
Matrix: Water
Date Received: 11/17/22 15:15

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 14:39	11/18/22 18:17	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	810		20	mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	8.5	H5	1.7	SU			11/21/22 15:21	1
Temperature (SM 4500 H+ B)	11.4	H5 T5	0.1	Degrees C			11/21/22 15:21	1

Client Sample ID: FC-CCR-FD08-1122

Lab Sample ID: 550-193838-4
Date Collected: 11/16/22 09:33
Matrix: Water
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46	D1	10	mg/L			11/29/22 17:18	5
Fluoride	ND	D1 D5	2.0	mg/L			11/29/22 17:18	5
Sulfate	430	D2	10	mg/L			11/29/22 17:18	5

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 14:43	1
Lithium	0.085		0.020	mg/L		11/30/22 20:14	12/01/22 20:35	1
Boron	0.34		0.050	mg/L		11/21/22 05:41	11/23/22 18:45	1
Calcium	87		2.0	mg/L		11/21/22 05:41	11/22/22 14:43	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 16:10	1
Arsenic	0.0021		0.00050	mg/L		11/21/22 09:32	12/07/22 16:10	1
Barium	0.21	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:53	2
Cadmium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 16:10	1
Chromium	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 16:10	1
Cobalt	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:10	1
Lead	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:10	1
Molybdenum	0.0051		0.00050	mg/L		11/21/22 09:32	12/07/22 16:10	1
Selenium	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:10	1
Thallium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 16:10	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00021		0.00020	mg/L		11/18/22 14:39	11/18/22 18:19	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	810		20	mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	8.7	H5	1.7	SU			11/21/22 15:22	1
Temperature (SM 4500 H+ B)	11.5	H5 T5	0.1	Degrees C			11/21/22 15:22	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-289643/2
Matrix: Water
Analysis Batch: 289643

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/29/22 10:49	1
Fluoride	ND		0.40		mg/L			11/29/22 10:49	1
Sulfate	ND		2.0		mg/L			11/29/22 10:49	1

Lab Sample ID: LCS 550-289643/11
Matrix: Water
Analysis Batch: 289643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Fluoride	4.00	4.06		mg/L		102	90 - 110
Sulfate	20.0	20.9	N1	mg/L		105	90 - 110

Lab Sample ID: LCSD 550-289643/10
Matrix: Water
Analysis Batch: 289643

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.18		mg/L		104	90 - 110	3	20

Lab Sample ID: 550-193769-A-3 MS
Matrix: Water
Analysis Batch: 289643

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	46	D1	200	257	D1	mg/L		105	80 - 120
Fluoride	ND	D1	40.0	43.8	D1	mg/L		105	80 - 120
Sulfate	230	D2	200	438	D2	mg/L		105	80 - 120

Lab Sample ID: 550-193769-A-3 MSD
Matrix: Water
Analysis Batch: 289643

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	46	D1	200	256	D1	mg/L		105	80 - 120	0	20
Fluoride	ND	D1	40.0	43.9	D1	mg/L		105	80 - 120	0	20
Sulfate	230	D2	200	437	D2	mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-290080/2
Matrix: Water
Analysis Batch: 290080

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			12/05/22 10:50	1
Fluoride	ND		0.40		mg/L			12/05/22 10:50	1
Sulfate	ND		2.0		mg/L			12/05/22 10:50	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-290080/5
Matrix: Water
Analysis Batch: 290080

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.16		mg/L		104	90 - 110		
Sulfate			20.0	20.8		mg/L		104	90 - 110		

Lab Sample ID: LCSD 550-290080/6
Matrix: Water
Analysis Batch: 290080

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.18		mg/L		105	90 - 110	0	20
Sulfate			20.0	21.5		mg/L		107	90 - 110	3	20

Lab Sample ID: 550-194416-A-2 MS
Matrix: Water
Analysis Batch: 290080

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	100	M3	20.0	116	M3	mg/L		79	80 - 120		
Fluoride	1.1		4.00	5.24		mg/L		104	80 - 120		
Sulfate	230	E2 M3	20.0	245	E2 M3	mg/L		53	80 - 120		

Lab Sample ID: 550-194416-A-2 MSD
Matrix: Water
Analysis Batch: 290080

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	M3	20.0	117	M3	mg/L		80	80 - 120	0	20
Fluoride	1.1		4.00	5.28		mg/L		105	80 - 120	1	20
Sulfate	230	E2 M3	20.0	245	E2 M3	mg/L		54	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-289121/1-A
Matrix: Water
Analysis Batch: 289388

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 289121

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:41	11/22/22 14:17	1
Boron	ND		0.050		mg/L		11/21/22 05:41	11/22/22 14:17	1
Calcium	ND		2.0		mg/L		11/21/22 05:41	11/22/22 14:17	1

Lab Sample ID: LCS 550-289121/2-A
Matrix: Water
Analysis Batch: 289388

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 289121

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	1.06		mg/L		106	85 - 115		
Boron			1.00	1.02		mg/L		102	85 - 115		
Calcium			21.0	21.6		mg/L		103	85 - 115		

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: LCSD 550-289121/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.05		mg/L		105	85 - 115	1	20
Boron			1.00	0.991		mg/L		99	85 - 115	3	20
Calcium			21.0	21.4		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-193775-B-26-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium	ND		1.00	1.11		mg/L		111	70 - 130		
Boron	43	M3	1.00	42.4	M3	mg/L		-37	70 - 130		
Calcium	450	M3	21.0	455	M3	mg/L		6	70 - 130		

Lab Sample ID: 550-193775-B-26-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.13		mg/L		113	70 - 130	2	20
Boron	43	M3	1.00	41.6	M3	mg/L		-119	70 - 130	2	20
Calcium	450	M3	21.0	460	M3	mg/L		30	70 - 130	1	20

Lab Sample ID: MB 280-595006/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020		mg/L		11/30/22 20:14	12/01/22 18:34	1

Lab Sample ID: LCS 280-595006/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.969		mg/L		97	90 - 112		

Lab Sample ID: LCSD 280-595006/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	0.968		mg/L		97	90 - 112	0	20

Lab Sample ID: 550-193775-C-21-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.51	M2	2.00	1.60	M2	mg/L		54	70 - 130		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-193775-C-21-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.51	M2	2.00	1.59	M2	mg/L		54	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-289144/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 14:15	1
Arsenic	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Barium	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Cadmium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 14:15	1
Chromium	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 14:15	1
Cobalt	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Lead	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Molybdenum	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Selenium	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Thallium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 14:15	1

Lab Sample ID: LCS 550-289144/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.102		mg/L		102	85 - 115
Arsenic	0.100	0.102		mg/L		102	85 - 115
Barium	0.100	0.102		mg/L		102	85 - 115
Cadmium	0.100	0.0961		mg/L		96	85 - 115
Chromium	0.100	0.0955		mg/L		95	85 - 115
Cobalt	0.100	0.0981		mg/L		98	85 - 115
Lead	0.100	0.0917		mg/L		92	85 - 115
Molybdenum	0.100	0.0981		mg/L		98	85 - 115
Selenium	0.100	0.106		mg/L		106	85 - 115
Thallium	0.100	0.0953		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-289144/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0930		mg/L		93	85 - 115	9	20
Arsenic	0.100	0.0852		mg/L		85	85 - 115	18	20
Barium	0.100	0.114		mg/L		114	85 - 115	11	20
Cadmium	0.100	0.0900		mg/L		90	85 - 115	7	20
Chromium	0.100	0.0980		mg/L		98	85 - 115	3	20
Cobalt	0.100	0.0974		mg/L		97	85 - 115	1	20
Lead	0.100	0.0899		mg/L		90	85 - 115	2	20
Molybdenum	0.100	0.0894		mg/L		89	85 - 115	9	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-289144/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium			0.100	0.0903		mg/L		90	85 - 115	16	20
Thallium			0.100	0.0931		mg/L		93	85 - 115	2	20

Lab Sample ID: 550-193775-C-26-A MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		0.100	0.109		mg/L		109	70 - 130		
Arsenic	0.00065		0.100	0.112		mg/L		112	70 - 130		
Barium	0.015		0.100	0.133		mg/L		118	70 - 130		
Cadmium	0.00062		0.100	0.0975		mg/L		97	70 - 130		
Chromium	0.0012		0.100	0.0964		mg/L		95	70 - 130		
Cobalt	0.020		0.100	0.114		mg/L		94	70 - 130		
Lead	0.0036		0.100	0.0942		mg/L		91	70 - 130		
Molybdenum	0.0025		0.100	0.109		mg/L		106	70 - 130		
Selenium	0.00064		0.100	0.130		mg/L		129	70 - 130		
Thallium	0.00022		0.100	0.0933		mg/L		93	70 - 130		

Lab Sample ID: 550-193775-C-26-B MSD T — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.104		mg/L		104	70 - 130	5	20
Arsenic	0.00065		0.100	0.107		mg/L		106	70 - 130	5	20
Barium	0.015		0.100	0.133		mg/L		118	70 - 130	0	20
Cadmium	0.00062		0.100	0.0930		mg/L		92	70 - 130	5	20
Chromium	0.0012		0.100	0.0923		mg/L		91	70 - 130	4	20
Cobalt	0.020		0.100	0.110		mg/L		89	70 - 130	4	20
Lead	0.0036		0.100	0.0899		mg/L		86	70 - 130	5	20
Molybdenum	0.0025		0.100	0.106		mg/L		104	70 - 130	2	20
Selenium	0.00064		0.100	0.127		mg/L		127	70 - 130	2	20
Thallium	0.00022		0.100	0.0881		mg/L		88	70 - 130	6	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-289038/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/18/22 14:39	11/18/22 17:53	1

Lab Sample ID: LCS 550-289038/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.00500	0.00454		mg/L		91	85 - 115		

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: LCSD 550-289038/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			0.00500	0.00481		mg/L		96	85 - 115	6	20

Lab Sample ID: 550-193828-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	0.00050		0.00500	0.00564		mg/L		103	70 - 130		

Lab Sample ID: 550-193828-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00050		0.00500	0.00575		mg/L		105	70 - 130	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-289423/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/23/22 18:15	1

Lab Sample ID: LCS 550-289423/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-289423/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110	0	10

Lab Sample ID: 550-193753-K-4 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	2600	D2		2600	D2	mg/L				0	10

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-289225/25
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-289225/37
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		100.0	98.5 - 101.5		

Lab Sample ID: 550-193838-1 DU
Matrix: Water
Analysis Batch: 289225

Client Sample ID: FC-CCR-SW1-1122
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.6	H5		8.6	H5	SU				0.2	5
Temperature	13.4	H5 T5		13.4	H5	Degrees C				0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

HPLC/IC

Analysis Batch: 289643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	300.0	
MB 550-289643/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289643/11	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289643/10	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193769-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
550-193769-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 290080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	300.0	
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	300.0	
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	300.0	
MB 550-290080/2	Method Blank	Total/NA	Water	300.0	
LCS 550-290080/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-290080/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-194416-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-194416-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 289038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	245.1	
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	245.1	
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	245.1	
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	245.1	
MB 550-289038/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-289038/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-289038/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-193828-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-193828-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 289067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	245.1	289038
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	245.1	289038
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	245.1	289038
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	245.1	289038
MB 550-289038/1-A	Method Blank	Total/NA	Water	245.1	289038
LCS 550-289038/2-A	Lab Control Sample	Total/NA	Water	245.1	289038
LCSD 550-289038/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	289038
550-193828-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	289038
550-193828-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	289038

Prep Batch: 289121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	200.7	
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	200.7	
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	200.7	
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	200.7	
MB 550-289121/1-A	Method Blank	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 289121 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-289121/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-289121/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193775-B-26-A MS	Matrix Spike	Total/NA	Water	200.7	
550-193775-B-26-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 289144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	200.8	
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	200.8	
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	200.8	
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	200.8	
MB 550-289144/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-289144/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-289144/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193775-C-26-A MS T	Matrix Spike	Total/NA	Water	200.8	
550-193775-C-26-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 289388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	200.7 Rev 4.4	289121
MB 550-289121/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289121
LCS 550-289121/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289121
LCSD 550-289121/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	289121

Analysis Batch: 289485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	200.7 Rev 4.4	289121

Analysis Batch: 290278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	200.8 LL	289144
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	200.8 LL	289144
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	200.8 LL	289144
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	200.8 LL	289144
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	200.8 LL	289144
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	200.8 LL	289144
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	200.8 LL	289144
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	200.8 LL	289144
MB 550-289144/1-A	Method Blank	Total/NA	Water	200.8 LL	289144
LCS 550-289144/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	289144
LCSD 550-289144/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289144
550-193775-C-26-A MS T	Matrix Spike	Total/NA	Water	200.8 LL	289144
550-193775-C-26-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	289144

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Metals

Prep Batch: 595006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	200.7	
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	200.7	
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	200.7	
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	200.7	
MB 280-595006/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-595006/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-595006/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193775-C-21-B MS	Matrix Spike	Total/NA	Water	200.7	
550-193775-C-21-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 595411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	200.7 Rev 4.4	595006
MB 280-595006/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	595006
LCS 280-595006/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	595006
LCSD 280-595006/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-C-21-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-C-21-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	595006

General Chemistry

Analysis Batch: 289225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	SM 4500 H+ B	
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	SM 4500 H+ B	
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	SM 4500 H+ B	
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-193838-1 DU	FC-CCR-SW1-1122	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 289423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193838-1	FC-CCR-SW1-1122	Total/NA	Water	SM 2540C	
550-193838-2	FC-CCR-SW2-1122	Total/NA	Water	SM 2540C	
550-193838-3	FC-CCR-SW3-1122	Total/NA	Water	SM 2540C	
550-193838-4	FC-CCR-FD08-1122	Total/NA	Water	SM 2540C	
MB 550-289423/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289423/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289423/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193753-K-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW1-1122

Lab Sample ID: 550-193838-1
Date Collected: 11/16/22 14:45
Matrix: Water
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	290080	AS1	EET PHX	12/05/22 14:33
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 14:34
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289485	CHS	EET PHX	11/23/22 18:37
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 20:23
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:47
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		1	290278	ARE	EET PHX	12/07/22 16:04
Total/NA	Prep	245.1			289038	SRR	EET PHX	11/18/22 14:39
Total/NA	Analysis	245.1		1	289067	SRR	EET PHX	11/18/22 18:13
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:18

Client Sample ID: FC-CCR-SW2-1122

Lab Sample ID: 550-193838-2
Date Collected: 11/16/22 17:06
Matrix: Water
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	290080	AS1	EET PHX	12/05/22 15:29
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 14:37
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289485	CHS	EET PHX	11/23/22 18:40
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 20:27
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:49
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		1	290278	ARE	EET PHX	12/07/22 16:06
Total/NA	Prep	245.1			289038	SRR	EET PHX	11/18/22 14:39
Total/NA	Analysis	245.1		1	289067	SRR	EET PHX	11/18/22 18:15
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:20

Client Sample ID: FC-CCR-SW3-1122

Lab Sample ID: 550-193838-3
Date Collected: 11/16/22 16:54
Matrix: Water
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	290080	AS1	EET PHX	12/05/22 16:25

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Client Sample ID: FC-CCR-SW3-1122

Lab Sample ID: 550-193838-3
Matrix: Water
Date Collected: 11/16/22 16:54
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 14:40
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289485	CHS	EET PHX	11/23/22 18:43
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 20:31
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:51
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		1	290278	ARE	EET PHX	12/07/22 16:08
Total/NA	Prep	245.1			289038	SRR	EET PHX	11/18/22 14:39
Total/NA	Analysis	245.1		1	289067	SRR	EET PHX	11/18/22 18:17
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:21

Client Sample ID: FC-CCR-FD08-1122

Lab Sample ID: 550-193838-4
Matrix: Water
Date Collected: 11/16/22 09:33
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	289643	AS1	EET PHX	11/29/22 17:18
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 14:43
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289485	CHS	EET PHX	11/23/22 18:45
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 20:35
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:53
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		1	290278	ARE	EET PHX	12/07/22 16:10
Total/NA	Prep	245.1			289038	SRR	EET PHX	11/18/22 14:39
Total/NA	Analysis	245.1		1	289067	SRR	EET PHX	11/18/22 18:19
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:22

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	05-31-23
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22 *
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-01-24
Kansas	NELAP	E-10166	04-30-23
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Louisiana (All)	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-23
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-23
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-23
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	09-30-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-23
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-23
Wisconsin	State	999615430	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193838-1
SDG: APS Four Corners Power Plant (CWTP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

193838

TestAmerica Laboratories, Inc.

12/8/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:
PO Box 355, MS 4915	**Analysis Turnaround Time**		
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS		
	TAT if different from Below _____		
	☑ 2 weeks		
Project Name: CCR Groundwater Monitoring	☐ 1 week		
Site: APS Four Corners Power Plant (CWTP)	☐ 2 days		
PO #: 100617121	☐ 1 day		

COC No: 1 of 1 COCs

Sampler:

For Lab Use Only:
Walk-in Client:
Lab Sampling:

Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
FC-CCR-SW1-1122 -1	11/16/2022	14:45	G	W	2	N	N	X	X	X	X	X	X	Morgan Lake grab sample
FC-CCR-SW2-1122 -2	11/16/2022	17:06	G	W	2	N	N	X	X	X	X	X	X	CWTP surface grab sample
FC-CCR-SW3-1122 -3	11/16/2022	16:54	G	W	2	N	N	X	X	X	X	X	X	Cooling canal grab sample
FC-CCR-FD08-1122 -4	11/16/2022	9:33	G	W	2	N	N	X	X	X	X	X	X	Surface water sample duplicate
								1	1	1	4	4	4	

550-193838 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

1.1°C IR gun

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Relinquished by: Brad Hartman	Company: WSP	Date/Time: 11-17-22	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time: 1515	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EETA-PHX	Date/Time: 11/17/22 1515

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone. 602-437-3340

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Roberts, Danielle C	Carrier Tracking No(s).	COC No. 550-35428.1
Client Contact: Shipping/Receiving	Phone	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-193838-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #			
Email:	WO #			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
FC-CCR-SW1-1122 (550-193838-1)	11/16/22	14:45 Arizona		Water			X	1	AZ Sample
FC-CCR-SW2-1122 (550-193838-2)	11/16/22	17:06 Arizona		Water			X	1	AZ Sample
FC-CCR-SW3-1122 (550-193838-3)	11/16/22	16:54 Arizona		Water			X	1	AZ Sample
FC-CCR-FD08-1122 (550-193838-4)	11/16/22	09:33 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Emel 11-18-22	14:40	EETSW	Fedex		
Fedex			[signature]	11/19/22 9:20	ETH/DEN

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
☑ Yes Δ No	1882811	2.1 IR12 CF00

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193838-1
SDG Number: APS Four Corners Power Plant (CWTP)

Login Number: 193838
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193838-1
SDG Number: APS Four Corners Power Plant (CWTP)

Login Number: 193838
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 11/19/22 01:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
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JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Four Corners Power Plant (URS)

JOB NUMBER

550-193840-1

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix AZ 85040

See page two for job notes and contact information.

my EOL

Eurofins Phoenix

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Job ID: 550-193840-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-193840-1

Comments
No additional comments.

Receipt
The samples were received on 11/17/2022 3:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.1º C.

HPLC/IC
Method 300.0: The laboratory control sample duplicate (LCSD) associated with analytical batch 550-289643 was outside acceptance criteria for Sulfate due to carry over from a previous sample injection. The results for the batch laboratory control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) were within acceptance limits and may be used to evaluate accuracy precision and matrix performance. As such, results have been reported and qualified with N1 flags on the LCS.

Method 300.0: The following sample was diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-MW85-1122 (550-193840-2). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-289388 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Methods 200.7, 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 280-595006 and analytical batch 280-595411 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193840-1
SDG: APS Four Corners Power Plant (URS)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-193840-1	FC-CCR-MW67-1122	Water	11/16/22 15:30	11/17/22 15:15
550-193840-2	FC-CCR-MW85-1122	Water	11/16/22 16:12	11/17/22 15:15

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193840-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW67-1122 — Lab Sample ID: 550-193840-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1900	D2	40		mg/L	20		300.0	Total/NA
Fluoride	13	D1	8.0		mg/L	20		300.0	Total/NA
Sulfate	12000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.37		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	160	D2	0.20		mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	500		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00067		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.024	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.00021		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0049		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.029		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0022		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.0010		0.00010		mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	21000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.1	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW85-1122 — Lab Sample ID: 550-193840-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	710	D2	20		mg/L	10		300.0	Total/NA
Sulfate	5900	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.35		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	67		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	530		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0016		0.00050		mg/L	1		200.8 LL	Total/NA
Barium	0.021	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cadmium	0.0016		0.00010		mg/L	1		200.8 LL	Total/NA
Chromium	0.020		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.0042		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0080		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.34		0.00050		mg/L	1		200.8 LL	Total/NA
Thallium	0.00069		0.00010		mg/L	1		200.8 LL	Total/NA
Mercury	0.00029		0.00020		mg/L	1		245.1	Total/NA
Total Dissolved Solids	10000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.2	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193840-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW67-1122

Lab Sample ID: 550-193840-1
Matrix: Water

Date Collected: 11/16/22 15:30
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900	D2	40	mg/L			11/29/22 20:41	20
Fluoride	13	D1	8.0	mg/L			11/29/22 20:41	20
Sulfate	12000	D2	400	mg/L			11/29/22 20:59	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 14:45	1
Lithium	0.37		0.020	mg/L		11/30/22 20:14	12/01/22 20:39	1
Boron	160	D2	0.20	mg/L		11/21/22 05:41	11/23/22 18:48	4
Calcium	500		2.0	mg/L		11/21/22 05:41	11/22/22 14:45	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 16:12	1
Arsenic	0.00067		0.00050	mg/L		11/21/22 09:32	12/07/22 16:12	1
Barium	0.024	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:55	2
Cadmium	0.00021		0.00010	mg/L		11/21/22 09:32	12/07/22 16:12	1
Chromium	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 16:12	1
Cobalt	0.0049		0.00050	mg/L		11/21/22 09:32	12/07/22 16:12	1
Lead	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 16:12	1
Molybdenum	0.029		0.00050	mg/L		11/21/22 09:32	12/07/22 16:12	1
Selenium	0.0022		0.00050	mg/L		11/21/22 09:32	12/07/22 16:12	1
Thallium	0.0010		0.00010	mg/L		11/21/22 09:32	12/07/22 16:12	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 14:39	11/18/22 18:21	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	21000	D2	200	mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			11/21/22 15:13	1
Temperature (SM 4500 H+ B)	11.1	H5 T5	0.1	Degrees C			11/21/22 15:13	1

Client Sample ID: FC-CCR-MW85-1122

Lab Sample ID: 550-193840-2
Matrix: Water

Date Collected: 11/16/22 16:12
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	710	D2	20	mg/L			12/05/22 14:48	10
Fluoride	ND	D1 D5	4.0	mg/L			12/05/22 14:48	10
Sulfate	5900	D2	400	mg/L			12/05/22 15:06	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 14:48	1
Lithium	0.35		0.020	mg/L		11/30/22 20:14	12/01/22 20:59	1
Boron	67		0.050	mg/L		11/21/22 05:41	11/22/22 14:48	1
Calcium	530		2.0	mg/L		11/21/22 05:41	11/22/22 14:48	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193840-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW85-1122

Lab Sample ID: 550-193840-2

Date Collected: 11/16/22 16:12
Matrix: Water
Date Received: 11/17/22 15:15

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010		mg/L		11/21/22 09:32	12/07/22 16:14	1
Arsenic	**0.0016**		0.00050		mg/L		11/21/22 09:32	12/07/22 16:14	1
Barium	**0.021**	**D1**	0.0010		mg/L		11/21/22 09:32	12/07/22 15:58	2
Cadmium	**0.0016**		0.00010		mg/L		11/21/22 09:32	12/07/22 16:14	1
Chromium	**0.020**		0.0010		mg/L		11/21/22 09:32	12/07/22 16:14	1
Cobalt	**0.0042**		0.00050		mg/L		11/21/22 09:32	12/07/22 16:14	1
Lead	ND		0.00050		mg/L		11/21/22 09:32	12/07/22 16:14	1
Molybdenum	**0.0080**		0.00050		mg/L		11/21/22 09:32	12/07/22 16:14	1
Selenium	**0.34**		0.00050		mg/L		11/21/22 09:32	12/07/22 16:14	1
Thallium	**0.00069**		0.00010		mg/L		11/21/22 09:32	12/07/22 16:14	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00029**		0.00020		mg/L		11/18/22 14:39	11/18/22 18:27	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**10000**	**D2**	100		mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	**7.2**	**H5**	1.7		SU			11/21/22 15:14	1
Temperature (SM 4500 H+ B)	**12.2**	**H5 T5**	0.1		Degrees C			11/21/22 15:14	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-289643/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/29/22 10:49	1
Fluoride	ND		0.40		mg/L			11/29/22 10:49	1
Sulfate	ND		2.0		mg/L			11/29/22 10:49	1

Lab Sample ID: LCS 550-289643/11 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.4		mg/L		102	90 - 110		
Fluoride			4.00	4.06		mg/L		102	90 - 110		
Sulfate			20.0	20.9	N1	mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-289643/10 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride			4.00	4.18		mg/L		104	90 - 110	3	20

Lab Sample ID: 550-193769-A-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	46	D1	200	257	D1	mg/L		105	80 - 120		
Fluoride	ND	D1	40.0	43.8	D1	mg/L		105	80 - 120		
Sulfate	230	D2	200	438	D2	mg/L		105	80 - 120		

Lab Sample ID: 550-193769-A-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	46	D1	200	256	D1	mg/L		105	80 - 120	0	20
Fluoride	ND	D1	40.0	43.9	D1	mg/L		105	80 - 120	0	20
Sulfate	230	D2	200	437	D2	mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-290078/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290078

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			12/05/22 11:01	1
Fluoride	ND		0.40		mg/L			12/05/22 11:01	1
Sulfate	ND		2.0		mg/L			12/05/22 11:01	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-290078/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290078

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.16		mg/L		104	90 - 110		
Sulfate			20.0	21.3		mg/L		107	90 - 110		

Lab Sample ID: LCSD 550-290078/7 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290078

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.4		mg/L		102	90 - 110	2	20
Fluoride			4.00	4.10		mg/L		103	90 - 110	1	20
Sulfate			20.0	20.7		mg/L		104	90 - 110	3	20

Lab Sample ID: 550-194246-A-7 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290078

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	5.2		20.0	25.7		mg/L		102	80 - 120		
Fluoride	0.99		4.00	5.17		mg/L		104	80 - 120		
Sulfate	66		20.0	86.1		mg/L		99	80 - 120		

Lab Sample ID: 550-194246-A-7 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290078

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5.2		20.0	26.1		mg/L		104	80 - 120	1	20
Fluoride	0.99		4.00	5.23		mg/L		106	80 - 120	1	20
Sulfate	66		20.0	86.5		mg/L		101	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-289121/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:41	11/22/22 14:17	1
Boron	ND		0.050		mg/L		11/21/22 05:41	11/22/22 14:17	1
Calcium	ND		2.0		mg/L		11/21/22 05:41	11/22/22 14:17	1

Lab Sample ID: LCS 550-289121/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	1.06		mg/L		106	85 - 115		
Boron			1.00	1.02		mg/L		102	85 - 115		
Calcium			21.0	21.6		mg/L		103	85 - 115		

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: LCSD 550-289121/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium			1.00	1.05		mg/L		105	85 - 115	1	20
Boron			1.00	0.991		mg/L		99	85 - 115	3	20
Calcium			21.0	21.4		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-193775-B-26-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium	ND		1.00	1.11		mg/L		111	70 - 130		
Boron	43	M3	1.00	42.4	M3	mg/L		-37	70 - 130		
Calcium	450	M3	21.0	455	M3	mg/L		6	70 - 130		

Lab Sample ID: 550-193775-B-26-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.13		mg/L		113	70 - 130	2	20
Boron	43	M3	1.00	41.6	M3	mg/L		-119	70 - 130	2	20
Calcium	450	M3	21.0	460	M3	mg/L		30	70 - 130	1	20

Lab Sample ID: MB 280-595006/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020		mg/L		11/30/22 20:14	12/01/22 18:34	1

Lab Sample ID: LCS 280-595006/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.969		mg/L		97	90 - 112		

Lab Sample ID: LCSD 280-595006/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	0.968		mg/L		97	90 - 112	0	20

Lab Sample ID: 550-193775-C-21-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	0.51	M2	2.00	1.60	M2	mg/L		54	70 - 130		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-193775-C-21-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595411 — **Prep Batch: 595006**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.51	M2	2.00	1.59	M2	mg/L		54	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-289144/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 14:15	1
Arsenic	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Barium	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Cadmium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 14:15	1
Chromium	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 14:15	1
Cobalt	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Lead	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Molybdenum	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Selenium	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Thallium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 14:15	1

Lab Sample ID: LCS 550-289144/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.102		mg/L		102	85 - 115
Arsenic	0.100	0.102		mg/L		102	85 - 115
Barium	0.100	0.102		mg/L		102	85 - 115
Cadmium	0.100	0.0961		mg/L		96	85 - 115
Chromium	0.100	0.0955		mg/L		95	85 - 115
Cobalt	0.100	0.0981		mg/L		98	85 - 115
Lead	0.100	0.0917		mg/L		92	85 - 115
Molybdenum	0.100	0.0981		mg/L		98	85 - 115
Selenium	0.100	0.106		mg/L		106	85 - 115
Thallium	0.100	0.0953		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-289144/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0930		mg/L		93	85 - 115	9	20
Arsenic	0.100	0.0852		mg/L		85	85 - 115	18	20
Barium	0.100	0.114		mg/L		114	85 - 115	11	20
Cadmium	0.100	0.0900		mg/L		90	85 - 115	7	20
Chromium	0.100	0.0980		mg/L		98	85 - 115	3	20
Cobalt	0.100	0.0974		mg/L		97	85 - 115	1	20
Lead	0.100	0.0899		mg/L		90	85 - 115	2	20
Molybdenum	0.100	0.0894		mg/L		89	85 - 115	9	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-289144/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium			0.100	0.0903		mg/L		90	85 - 115	16	20
Thallium			0.100	0.0931		mg/L		93	85 - 115	2	20

Lab Sample ID: 550-193775-C-26-A MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		0.100	0.109		mg/L		109	70 - 130		
Arsenic	0.00065		0.100	0.112		mg/L		112	70 - 130		
Barium	0.015		0.100	0.133		mg/L		118	70 - 130		
Cadmium	0.00062		0.100	0.0975		mg/L		97	70 - 130		
Chromium	0.0012		0.100	0.0964		mg/L		95	70 - 130		
Cobalt	0.020		0.100	0.114		mg/L		94	70 - 130		
Lead	0.0036		0.100	0.0942		mg/L		91	70 - 130		
Molybdenum	0.0025		0.100	0.109		mg/L		106	70 - 130		
Selenium	0.00064		0.100	0.130		mg/L		129	70 - 130		
Thallium	0.00022		0.100	0.0933		mg/L		93	70 - 130		

Lab Sample ID: 550-193775-C-26-B MSD T — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.104		mg/L		104	70 - 130	5	20
Arsenic	0.00065		0.100	0.107		mg/L		106	70 - 130	5	20
Barium	0.015		0.100	0.133		mg/L		118	70 - 130	0	20
Cadmium	0.00062		0.100	0.0930		mg/L		92	70 - 130	5	20
Chromium	0.0012		0.100	0.0923		mg/L		91	70 - 130	4	20
Cobalt	0.020		0.100	0.110		mg/L		89	70 - 130	4	20
Lead	0.0036		0.100	0.0899		mg/L		86	70 - 130	5	20
Molybdenum	0.0025		0.100	0.106		mg/L		104	70 - 130	2	20
Selenium	0.00064		0.100	0.127		mg/L		127	70 - 130	2	20
Thallium	0.00022		0.100	0.0881		mg/L		88	70 - 130	6	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-289038/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/18/22 14:39	11/18/22 17:53	1

Lab Sample ID: LCS 550-289038/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.00500	0.00454		mg/L		91	85 - 115		

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: LCSD 550-289038/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			0.00500	0.00481		mg/L		96	85 - 115	6	20

Lab Sample ID: 550-193828-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	0.00050		0.00500	0.00564		mg/L		103	70 - 130		

Lab Sample ID: 550-193828-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00050		0.00500	0.00575		mg/L		105	70 - 130	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-289423/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/23/22 18:15	1

Lab Sample ID: LCS 550-289423/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-289423/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110	0	10

Lab Sample ID: 550-193840-1 DU — **Client Sample ID: FC-CCR-MW67-1122**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	21000	D2		20400	D2	mg/L				0.9	10

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193840-1
SDG: APS Four Corners Power Plant (URS)

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-289225/13
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		100.0	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-289225/25
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: 550-193897-A-1 DU
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.2	H5		7.2	H5	SU				0.1	5
Temperature	13.4	H5		13.4	H5	Degrees C				0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193840-1
SDG: APS Four Corners Power Plant (URS)

HPLC/IC

Analysis Batch: 289643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	300.0	
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	300.0	
MB 550-289643/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289643/11	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289643/10	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193769-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
550-193769-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 290078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	300.0	
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	300.0	
MB 550-290078/2	Method Blank	Total/NA	Water	300.0	
LCS 550-290078/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-290078/7	Lab Control Sample Dup	Total/NA	Water	300.0	
550-194246-A-7 MS	Matrix Spike	Total/NA	Water	300.0	
550-194246-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 289038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	245.1	
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	245.1	
MB 550-289038/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-289038/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-289038/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-193828-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-193828-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 289067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	245.1	289038
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	245.1	289038
MB 550-289038/1-A	Method Blank	Total/NA	Water	245.1	289038
LCS 550-289038/2-A	Lab Control Sample	Total/NA	Water	245.1	289038
LCSD 550-289038/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	289038
550-193828-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	289038
550-193828-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	289038

Prep Batch: 289121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	200.7	
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	200.7	
MB 550-289121/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-289121/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-289121/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193775-B-26-A MS	Matrix Spike	Total/NA	Water	200.7	
550-193775-B-26-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193840-1
SDG: APS Four Corners Power Plant (URS)

Metals

Prep Batch: 289144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	200.8	
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	200.8	
MB 550-289144/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-289144/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-289144/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193775-C-26-A MS T	Matrix Spike	Total/NA	Water	200.8	
550-193775-C-26-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 289388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	200.7 Rev 4.4	289121
MB 550-289121/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289121
LCS 550-289121/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289121
LCSD 550-289121/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	289121

Analysis Batch: 289485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	200.7 Rev 4.4	289121

Analysis Batch: 290278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	200.8 LL	289144
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	200.8 LL	289144
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	200.8 LL	289144
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	200.8 LL	289144
MB 550-289144/1-A	Method Blank	Total/NA	Water	200.8 LL	289144
LCS 550-289144/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	289144
LCSD 550-289144/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289144
550-193775-C-26-A MS T	Matrix Spike	Total/NA	Water	200.8 LL	289144
550-193775-C-26-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	289144

Prep Batch: 595006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	200.7	
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	200.7	
MB 280-595006/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-595006/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-595006/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193775-C-21-B MS	Matrix Spike	Total/NA	Water	200.7	
550-193775-C-21-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 595411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	200.7 Rev 4.4	595006
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	200.7 Rev 4.4	595006
MB 280-595006/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	595006
LCS 280-595006/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	595006
LCSD 280-595006/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	595006

Metals (Continued)

Analysis Batch: 595411 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193775-C-21-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	595006
550-193775-C-21-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	595006

General Chemistry

Analysis Batch: 289225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	SM 4500 H+ B	
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-193897-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 289423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193840-1	FC-CCR-MW67-1122	Total/NA	Water	SM 2540C	
550-193840-2	FC-CCR-MW85-1122	Total/NA	Water	SM 2540C	
MB 550-289423/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289423/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289423/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193840-1 DU	FC-CCR-MW67-1122	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193840-1
SDG: APS Four Corners Power Plant (URS)

Client Sample ID: FC-CCR-MW67-1122

Lab Sample ID: 550-193840-1

Date Collected: 11/16/22 15:30
Matrix: Water
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	289643	AS1	EET PHX	11/29/22 20:41
Total/NA	Analysis	300.0		200	289643	AS1	EET PHX	11/29/22 20:59
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 14:45
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		4	289485	CHS	EET PHX	11/23/22 18:48
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 20:39
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:55
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		1	290278	ARE	EET PHX	12/07/22 16:12
Total/NA	Prep	245.1			289038	SRR	EET PHX	11/18/22 14:39
Total/NA	Analysis	245.1		1	289067	SRR	EET PHX	11/18/22 18:21
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:13

Client Sample ID: FC-CCR-MW85-1122

Lab Sample ID: 550-193840-2

Date Collected: 11/16/22 16:12
Matrix: Water
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	290078	AS1	EET PHX	12/05/22 14:48
Total/NA	Analysis	300.0		200	290078	AS1	EET PHX	12/05/22 15:06
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 14:48
Total/NA	Prep	200.7			595006	MCR	EET DEN	11/30/22 20:14
Total/NA	Analysis	200.7 Rev 4.4		1	595411	KRP	EET DEN	12/01/22 20:59
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:58
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		1	290278	ARE	EET PHX	12/07/22 16:14
Total/NA	Prep	245.1			289038	SRR	EET PHX	11/18/22 14:39
Total/NA	Analysis	245.1		1	289067	SRR	EET PHX	11/18/22 18:27
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:14

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193840-1
SDG: APS Four Corners Power Plant (URS)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	05-31-23
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22 *
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-01-24
Kansas	NELAP	E-10166	04-30-23
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Louisiana (All)	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-23
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-23
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-23
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	09-30-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-23
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-23
Wisconsin	State	999615430	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193840-1
SDG: APS Four Corners Power Plant (URS)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

193840

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			Walk-in Client:
	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (URS)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
FC-CCR-MW67-1122 -1	11/16/2022	15:30	G	W	2	N	N	X	X	X	X	X	X	Low Flow
FC-CCR-MW85-112 -2	11/16/2022	16:12	G	W	2	N	N	X	X	X	X	X	X	"
								1	4	4	1	1	4	

550-193840 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

1.1°C IWG CBS

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Brad Hartman	WSP	11-17-22			
Relinquished by:	Company:	Date/Time: 1515	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TETA-PHX	Date/Time: 11/17/22 1515

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

12/8/2022

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone 602-437-3340

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No: 550-35428.1
Client Contact: Shipping/Receiving	Phone	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-193840-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW67-1122 (550-193840-1)	11/16/22	15:30 Arizona		Water			X	1	AZ Sample
FC-CCR-MW85-1122 (550-193840-2)	11/16/22	16:12 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible] 11-18-22	14:40	EETSW	Fedex		
Relinquished by: Fedex	Date/Time:	Company	Received by: [illegible]	Date/Time: 11/19/22 920	Company EETSW
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.: 1882811
Cooler Temperature(s) °C and Other Remarks: 2.1 IR12 CF 0 J

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193840-1
SDG Number: APS Four Corners Power Plant (URS)

Login Number: 193840
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193840-1
SDG Number: APS Four Corners Power Plant (URS)

Login Number: 193840
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 11/19/22 01:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 12/8/2022 2:00:22 PM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Four Corners Power Plant (Multiunit)

JOB NUMBER

550-193842-1

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix AZ 85040

See page two for job notes and contact information.

my EOL

Eurofins Phoenix

Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization

Generated
12/8/2022 2:00:22 PM

Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-193842-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-193842-1

Comments
No additional comments.

Receipt
The samples were received on 11/17/2022 3:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.1º C.

HPLC/IC
Method 300.0: The following sample was diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-MW07-1122 (550-193842-1). A metals test was performed on the undiluted sample which produced a strong positive result. Therefore to reduce these interferences, a dilution was prepared prior to the instrument analysis. The sample was re-tested at increasing dilutions and run at the lowest dilution which presented with minimized interference. This analyte was not detected in the diluted sample. As such, an elevated reporting limits (RLs) has been provided and the result has been qualified with D1 and D5 flags.

Method 300.0: The following samples were diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-MW08-1122 (550-193842-2) and FC-CCR-MW49A-1122 (550-193842-3). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-289388 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193842-1
SDG: APS Four Corners Power Plant (Multiunit)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-193842-1	FC-CCR-MW07-1122	Water	11/16/22 14:12	11/17/22 15:15
550-193842-2	FC-CCR-MW08-1122	Water	11/16/22 13:25	11/17/22 15:15
550-193842-3	FC-CCR-MW49A-1122	Water	11/16/22 09:03	11/17/22 15:15

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193842-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW07-1122 — Lab Sample ID: 550-193842-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	580	D2	400	mg/L	200		300.0	Total/NA
Sulfate	5700	D2	400	mg/L	200		300.0	Total/NA
Lithium	1.0		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	7.8		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.017	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0034	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Selenium	0.0082	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	9500	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW08-1122 — Lab Sample ID: 550-193842-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400	mg/L	200		300.0	Total/NA
Sulfate	9900	D2	400	mg/L	200		300.0	Total/NA
Lithium	1.3		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	16		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1000	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	39		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3300	D2	2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.011	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.013	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	490		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	490		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW49A-1122 — Lab Sample ID: 550-193842-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	510	D2	20	mg/L	10		300.0	Total/NA
Sulfate	14000	D2	400	mg/L	200		300.0	Total/NA
Lithium	1.0		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0019	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Barium	0.025	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Chromium	0.0038	D1	0.0020	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0014	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.034	D1	0.0010	mg/L	2		200.8 LL	Total/NA
Thallium	0.0014	D1	0.00020	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	21000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193842-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW07-1122

Lab Sample ID: 550-193842-1
Matrix: Water
Date Collected: 11/16/22 14:12
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**580**	**D2**	400	mg/L			12/01/22 14:51	200
Fluoride	ND	D1 D5	2.0	mg/L			12/01/22 14:32	5
Sulfate	**5700**	**D2**	400	mg/L			12/01/22 14:51	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 14:57	1
Lithium	**1.0**		0.020	mg/L		12/01/22 17:42	12/02/22 17:10	1
Boron	**7.8**		0.050	mg/L		11/21/22 05:41	11/22/22 14:57	1
Calcium	**420**		2.0	mg/L		11/21/22 05:41	11/22/22 14:57	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1	0.0020	mg/L		11/21/22 09:32	12/07/22 15:37	2
Arsenic	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:37	2
Barium	**0.017**	**D1**	0.0010	mg/L		11/21/22 09:32	12/07/22 15:37	2
Cadmium	ND	D1	0.00020	mg/L		11/21/22 09:32	12/07/22 15:37	2
Chromium	ND	D1	0.0020	mg/L		11/21/22 09:32	12/07/22 15:37	2
Cobalt	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:37	2
Lead	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:37	2
Molybdenum	**0.0034**	**D1**	0.0010	mg/L		11/21/22 09:32	12/07/22 15:37	2
Selenium	**0.0082**	**D1**	0.0010	mg/L		11/21/22 09:32	12/07/22 15:37	2
Thallium	ND	D1	0.00020	mg/L		11/21/22 09:32	12/07/22 15:37	2

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 14:39	11/18/22 18:29	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**9500**	**D2**	100	mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	**7.3**	**H5**	1.7	SU			11/21/22 15:08	1
Temperature (SM 4500 H+ B)	**13.4**	**H5 T5**	0.1	Degrees C			11/21/22 15:08	1

Client Sample ID: FC-CCR-MW08-1122

Lab Sample ID: 550-193842-2
Matrix: Water
Date Collected: 11/16/22 13:25
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1000**	**D2**	400	mg/L			12/02/22 16:59	200
Fluoride	ND	D1 D5	4.0	mg/L			12/02/22 16:41	10
Sulfate	**9900**	**D2**	400	mg/L			12/02/22 16:59	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 15:00	1
Lithium	**1.3**		0.020	mg/L		12/01/22 17:42	12/02/22 17:14	1
Boron	**16**		0.050	mg/L		11/21/22 05:41	11/22/22 15:00	1
Calcium	**460**		2.0	mg/L		11/21/22 05:41	11/22/22 15:00	1
Magnesium	**1000**	**D2**	10	mg/L		11/21/22 05:41	11/23/22 18:51	5

Client Sample ID: FC-CCR-MW08-1122

Lab Sample ID: 550-193842-2

Date Collected: 11/16/22 13:25
Matrix: Water
Date Received: 11/17/22 15:15

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**39**		0.50	mg/L		11/21/22 05:41	11/22/22 15:00	1
Sodium	**3300**	**D2**	2.5	mg/L		11/21/22 05:41	11/23/22 18:51	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1	0.0020	mg/L		11/21/22 09:32	12/07/22 15:39	2
Arsenic	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:39	2
Barium	**0.011**	**D1**	0.0010	mg/L		11/21/22 09:32	12/07/22 15:39	2
Cadmium	ND	D1	0.00020	mg/L		11/21/22 09:32	12/07/22 15:39	2
Chromium	ND	D1	0.0020	mg/L		11/21/22 09:32	12/07/22 15:39	2
Cobalt	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:39	2
Lead	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:39	2
Molybdenum	**0.013**	**D1**	0.0010	mg/L		11/21/22 09:32	12/07/22 15:39	2
Selenium	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:39	2
Thallium	ND	D1	0.00020	mg/L		11/21/22 09:32	12/07/22 15:39	2

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 14:39	11/18/22 18:31	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	**490**		6.0	mg/L			11/23/22 22:40	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 22:40	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**490**		6.0	mg/L			11/23/22 22:40	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 22:40	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 22:40	1
Total Dissolved Solids (SM 2540C)	**16000**	**D2**	200	mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	**7.2**	**H5**	1.7	SU			11/21/22 15:09	1
Temperature (SM 4500 H+ B)	**13.3**	**H5 T5**	0.1	Degrees C			11/21/22 15:09	1

Client Sample ID: FC-CCR-MW49A-1122

Lab Sample ID: 550-193842-3

Date Collected: 11/16/22 09:03
Matrix: Water
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**510**	**D2**	20	mg/L			12/02/22 17:18	10
Fluoride	ND	D1 D5	4.0	mg/L			12/02/22 17:18	10
Sulfate	**14000**	**D2**	400	mg/L			12/02/22 17:36	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 15:02	1
Lithium	**1.0**		0.020	mg/L		12/01/22 17:42	12/02/22 17:18	1
Boron	**4.2**		0.050	mg/L		11/21/22 05:41	11/22/22 15:02	1
Calcium	**420**		2.0	mg/L		11/21/22 05:41	11/22/22 15:02	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193842-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW49A-1122

Lab Sample ID: 550-193842-3

Date Collected: 11/16/22 09:03
Matrix: Water
Date Received: 11/17/22 15:15

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1	0.0020		mg/L		11/21/22 09:32	12/07/22 15:41	2
Arsenic	**0.0019**	**D1**	0.0010		mg/L		11/21/22 09:32	12/07/22 15:41	2
Barium	**0.025**	**D1**	0.0010		mg/L		11/21/22 09:32	12/07/22 15:41	2
Cadmium	ND	D1	0.00020		mg/L		11/21/22 09:32	12/07/22 15:41	2
Chromium	**0.0038**	**D1**	0.0020		mg/L		11/21/22 09:32	12/07/22 15:41	2
Cobalt	**0.0014**	**D1**	0.0010		mg/L		11/21/22 09:32	12/07/22 15:41	2
Lead	ND	D1	0.0010		mg/L		11/21/22 09:32	12/07/22 15:41	2
Molybdenum	**0.034**	**D1**	0.0010		mg/L		11/21/22 09:32	12/07/22 15:41	2
Selenium	ND	D1	0.0010		mg/L		11/21/22 09:32	12/07/22 15:41	2
Thallium	**0.0014**	**D1**	0.00020		mg/L		11/21/22 09:32	12/07/22 15:41	2

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		11/18/22 14:39	11/18/22 18:33	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**21000**	**D2**	200		mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	**7.3**	**H5**	1.7		SU			11/21/22 15:11	1
Temperature (SM 4500 H+ B)	**10.9**	**H5 T5**	0.1		Degrees C			11/21/22 15:11	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-289875/2
Matrix: Water
Analysis Batch: 289875

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			12/01/22 10:51	1
Fluoride	ND		0.40		mg/L			12/01/22 10:51	1
Sulfate	ND		2.0		mg/L			12/01/22 10:51	1

Lab Sample ID: LCS 550-289875/5
Matrix: Water
Analysis Batch: 289875

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.5		mg/L		102	90 - 110		
Fluoride			4.00	4.10		mg/L		103	90 - 110		
Sulfate			20.0	20.8		mg/L		104	90 - 110		

Lab Sample ID: LCSD 550-289875/6
Matrix: Water
Analysis Batch: 289875

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.5		mg/L		102	90 - 110	0	20
Fluoride			4.00	4.14		mg/L		104	90 - 110	1	20
Sulfate			20.0	21.0		mg/L		105	90 - 110	1	20

Lab Sample ID: 550-194271-B-1 MS
Matrix: Water
Analysis Batch: 289875

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	7.9		20.0	28.8		mg/L		105	80 - 120		
Fluoride	ND		4.00	4.49		mg/L		105	80 - 120		
Sulfate	5.3		20.0	28.7		mg/L		117	80 - 120		

Lab Sample ID: 550-194271-B-1 MSD
Matrix: Water
Analysis Batch: 289875

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	7.9		20.0	29.2		mg/L		107	80 - 120	1	20
Fluoride	ND		4.00	4.56		mg/L		107	80 - 120	2	20
Sulfate	5.3		20.0	29.2		mg/L		120	80 - 120	2	20

Lab Sample ID: MB 550-289993/2
Matrix: Water
Analysis Batch: 289993

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			12/02/22 10:51	1
Fluoride	ND		0.40		mg/L			12/02/22 10:51	1
Sulfate	ND		2.0		mg/L			12/02/22 10:51	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-289993/6
Matrix: Water
Analysis Batch: 289993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.13		mg/L		103	90 - 110
Sulfate	20.0	21.2		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-289993/7
Matrix: Water
Analysis Batch: 289993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.4		mg/L		102	90 - 110	1	20
Fluoride	4.00	4.09		mg/L		102	90 - 110	1	20
Sulfate	20.0	20.7		mg/L		104	90 - 110	2	20

Lab Sample ID: 550-194261-A-1 MS
Matrix: Water
Analysis Batch: 289993

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	240	D2	200	461	D2	mg/L		110	80 - 120
Fluoride	ND	D1 D5	40.0	42.1	D1	mg/L		103	80 - 120
Sulfate	100	D1	200	311	D1	mg/L		105	80 - 120

Lab Sample ID: 550-194261-A-1 MSD
Matrix: Water
Analysis Batch: 289993

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	240	D2	200	459	D2	mg/L		109	80 - 120	0	20
Fluoride	ND	D1 D5	40.0	42.4	D1	mg/L		104	80 - 120	1	20
Sulfate	100	D1	200	310	D1	mg/L		105	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-289121/1-A
Matrix: Water
Analysis Batch: 289388

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 289121

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 14:17	1
Boron	ND		0.050	mg/L		11/21/22 05:41	11/22/22 14:17	1
Calcium	ND		2.0	mg/L		11/21/22 05:41	11/22/22 14:17	1
Magnesium	ND		2.0	mg/L		11/21/22 05:41	11/22/22 14:17	1
Potassium	ND		0.50	mg/L		11/21/22 05:41	11/22/22 14:17	1
Sodium	ND		0.50	mg/L		11/21/22 05:41	11/22/22 14:17	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-289121/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.06		mg/L		106	85 - 115
Boron	1.00	1.02		mg/L		102	85 - 115
Calcium	21.0	21.6		mg/L		103	85 - 115
Magnesium	21.0	21.2		mg/L		101	85 - 115
Potassium	20.0	19.6		mg/L		98	85 - 115
Sodium	20.0	20.5		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-289121/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.05		mg/L		105	85 - 115	1	20
Boron	1.00	0.991		mg/L		99	85 - 115	3	20
Calcium	21.0	21.4		mg/L		102	85 - 115	1	20
Magnesium	21.0	20.8		mg/L		99	85 - 115	2	20
Potassium	20.0	19.3		mg/L		96	85 - 115	1	20
Sodium	20.0	20.2		mg/L		101	85 - 115	1	20

Lab Sample ID: 550-193775-B-26-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.11		mg/L		111	70 - 130
Boron	43	M3	1.00	42.4	M3	mg/L		-37	70 - 130
Calcium	450	M3	21.0	455	M3	mg/L		6	70 - 130
Magnesium	950	M3	21.0	930	M3	mg/L		-98	70 - 130
Potassium	35		20.0	56.3		mg/L		105	70 - 130

Lab Sample ID: 550-193775-B-26-A MS ^4 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289485 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	1900	M3 D2	20.0	1880	D2 M3	mg/L		-160	70 - 130

Lab Sample ID: 550-193775-B-26-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.13		mg/L		113	70 - 130	2	20
Boron	43	M3	1.00	41.6	M3	mg/L		-119	70 - 130	2	20
Calcium	450	M3	21.0	460	M3	mg/L		30	70 - 130	1	20
Magnesium	950	M3	21.0	939	M3	mg/L		-57	70 - 130	1	20
Potassium	35		20.0	57.4		mg/L		110	70 - 130	2	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-193775-B-26-B MSD ^4 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289485 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	1900	M3 D2	20.0	1860	D2 M3	mg/L		-240	70 - 130	1	20

Lab Sample ID: MB 280-595156/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595469 — **Prep Batch: 595156**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020		mg/L		12/01/22 17:42	12/02/22 16:42	1

Lab Sample ID: LCS 280-595156/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595469 — **Prep Batch: 595156**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.995		mg/L		99	90 - 112		

Lab Sample ID: LCSD 280-595156/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595469 — **Prep Batch: 595156**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	0.989		mg/L		99	90 - 112	1	20

Lab Sample ID: 280-169706-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595469 — **Prep Batch: 595156**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	ND		1.00	1.00		mg/L		100	70 - 130		

Lab Sample ID: 280-169706-A-2-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595469 — **Prep Batch: 595156**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	ND		1.00	0.982		mg/L		98	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-289144/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010		mg/L		11/21/22 09:32	12/07/22 14:15	1
Arsenic	ND		0.00050		mg/L		11/21/22 09:32	12/07/22 14:15	1
Barium	ND		0.00050		mg/L		11/21/22 09:32	12/07/22 14:15	1
Cadmium	ND		0.00010		mg/L		11/21/22 09:32	12/07/22 14:15	1
Chromium	ND		0.0010		mg/L		11/21/22 09:32	12/07/22 14:15	1
Cobalt	ND		0.00050		mg/L		11/21/22 09:32	12/07/22 14:15	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-289144/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Molybdenum	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Selenium	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Thallium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 14:15	1

Lab Sample ID: LCS 550-289144/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.102		mg/L		102	85 - 115
Arsenic	0.100	0.102		mg/L		102	85 - 115
Barium	0.100	0.102		mg/L		102	85 - 115
Cadmium	0.100	0.0961		mg/L		96	85 - 115
Chromium	0.100	0.0955		mg/L		95	85 - 115
Cobalt	0.100	0.0981		mg/L		98	85 - 115
Lead	0.100	0.0917		mg/L		92	85 - 115
Molybdenum	0.100	0.0981		mg/L		98	85 - 115
Selenium	0.100	0.106		mg/L		106	85 - 115
Thallium	0.100	0.0953		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-289144/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0930		mg/L		93	85 - 115	9	20
Arsenic	0.100	0.0852		mg/L		85	85 - 115	18	20
Barium	0.100	0.114		mg/L		114	85 - 115	11	20
Cadmium	0.100	0.0900		mg/L		90	85 - 115	7	20
Chromium	0.100	0.0980		mg/L		98	85 - 115	3	20
Cobalt	0.100	0.0974		mg/L		97	85 - 115	1	20
Lead	0.100	0.0899		mg/L		90	85 - 115	2	20
Molybdenum	0.100	0.0894		mg/L		89	85 - 115	9	20
Selenium	0.100	0.0903		mg/L		90	85 - 115	16	20
Thallium	0.100	0.0931		mg/L		93	85 - 115	2	20

Lab Sample ID: 550-193775-C-26-A MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.109		mg/L		109	70 - 130
Arsenic	0.00065		0.100	0.112		mg/L		112	70 - 130
Barium	0.015		0.100	0.133		mg/L		118	70 - 130
Cadmium	0.00062		0.100	0.0975		mg/L		97	70 - 130
Chromium	0.0012		0.100	0.0964		mg/L		95	70 - 130
Cobalt	0.020		0.100	0.114		mg/L		94	70 - 130
Lead	0.0036		0.100	0.0942		mg/L		91	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-193775-C-26-A MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Molybdenum	0.0025		0.100	0.109		mg/L		106	70 - 130
Selenium	0.00064		0.100	0.130		mg/L		129	70 - 130
Thallium	0.00022		0.100	0.0933		mg/L		93	70 - 130

Lab Sample ID: 550-193775-C-26-B MSD T — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.104		mg/L		104	70 - 130	5	20
Arsenic	0.00065		0.100	0.107		mg/L		106	70 - 130	5	20
Barium	0.015		0.100	0.133		mg/L		118	70 - 130	0	20
Cadmium	0.00062		0.100	0.0930		mg/L		92	70 - 130	5	20
Chromium	0.0012		0.100	0.0923		mg/L		91	70 - 130	4	20
Cobalt	0.020		0.100	0.110		mg/L		89	70 - 130	4	20
Lead	0.0036		0.100	0.0899		mg/L		86	70 - 130	5	20
Molybdenum	0.0025		0.100	0.106		mg/L		104	70 - 130	2	20
Selenium	0.00064		0.100	0.127		mg/L		127	70 - 130	2	20
Thallium	0.00022		0.100	0.0881		mg/L		88	70 - 130	6	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-289038/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/18/22 14:39	11/18/22 17:53	1

Lab Sample ID: LCS 550-289038/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00454		mg/L		91	85 - 115

Lab Sample ID: LCSD 550-289038/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00500	0.00481		mg/L		96	85 - 115	6	20

Lab Sample ID: 550-193828-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00050		0.00500	0.00564		mg/L		103	70 - 130

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-193828-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289067 — **Prep Batch: 289038**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00050		0.00500	0.00575		mg/L		105	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-289437/31 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			11/23/22 21:13	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			11/23/22 21:13	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			11/23/22 21:13	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			11/23/22 21:13	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			11/23/22 21:13	1

Lab Sample ID: LCS 550-289437/30 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	246		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-289437/17 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	244		mg/L		97	90 - 110	10	20

Lab Sample ID: LCSD 550-289437/43 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	256		mg/L		102	90 - 110	4	20

Lab Sample ID: 550-193775-A-6 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	870		875		mg/L		1	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	870		875		mg/L		1	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-289423/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/23/22 18:15	1

Lab Sample ID: LCS 550-289423/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-289423/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110	0	10

Lab Sample ID: 550-193840-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	21000	D2		20400	D2	mg/L				0.9	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-289225/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289225

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		100.0	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-289225/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289225

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: 550-193897-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289225

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.2	H5		7.2	H5	SU				0.1	5
Temperature	13.4	H5		13.4	H5	Degrees C				0	

HPLC/IC

Analysis Batch: 289875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	300.0	
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	300.0	
MB 550-289875/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289875/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289875/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-194271-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-194271-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	300.0	
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	300.0	
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	300.0	
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	300.0	
MB 550-289993/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289993/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289993/7	Lab Control Sample Dup	Total/NA	Water	300.0	
550-194261-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-194261-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 289038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	245.1	
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	245.1	
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	245.1	
MB 550-289038/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-289038/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-289038/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-193828-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-193828-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 289067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	245.1	289038
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	245.1	289038
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	245.1	289038
MB 550-289038/1-A	Method Blank	Total/NA	Water	245.1	289038
LCS 550-289038/2-A	Lab Control Sample	Total/NA	Water	245.1	289038
LCSD 550-289038/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	289038
550-193828-A-1-A MS	Matrix Spike	Total/NA	Water	245.1	289038
550-193828-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	289038

Prep Batch: 289121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	200.7	
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	200.7	
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	200.7	
MB 550-289121/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-289121/2-A	Lab Control Sample	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 289121 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-289121/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193775-B-26-A MS	Matrix Spike	Total/NA	Water	200.7	
550-193775-B-26-A MS ^4	Matrix Spike	Total/NA	Water	200.7	
550-193775-B-26-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-193775-B-26-B MSD ^4	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 289144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	200.8	
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	200.8	
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	200.8	
MB 550-289144/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-289144/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-289144/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193775-C-26-A MS T	Matrix Spike	Total/NA	Water	200.8	
550-193775-C-26-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 289388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	200.7 Rev 4.4	289121
MB 550-289121/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289121
LCS 550-289121/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289121
LCSD 550-289121/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	289121

Analysis Batch: 289485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-A MS ^4	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-B MSD ^4	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	289121

Analysis Batch: 290278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	200.8 LL	289144
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	200.8 LL	289144
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	200.8 LL	289144
MB 550-289144/1-A	Method Blank	Total/NA	Water	200.8 LL	289144
LCS 550-289144/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	289144
LCSD 550-289144/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289144
550-193775-C-26-A MS T	Matrix Spike	Total/NA	Water	200.8 LL	289144
550-193775-C-26-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	289144

Prep Batch: 595156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	200.7	
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	200.7	
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	200.7	
MB 280-595156/1-A	Method Blank	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 595156 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-595156/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-595156/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
280-169706-A-2-B MS	Matrix Spike	Total/NA	Water	200.7	
280-169706-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 595469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	200.7 Rev 4.4	595156
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	200.7 Rev 4.4	595156
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	200.7 Rev 4.4	595156
MB 280-595156/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	595156
LCS 280-595156/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	595156
LCSD 280-595156/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	595156
280-169706-A-2-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	595156
280-169706-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	595156

General Chemistry

Analysis Batch: 289225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	SM 4500 H+ B	
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	SM 4500 H+ B	
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-193897-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 289423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-1	FC-CCR-MW07-1122	Total/NA	Water	SM 2540C	
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	SM 2540C	
550-193842-3	FC-CCR-MW49A-1122	Total/NA	Water	SM 2540C	
MB 550-289423/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289423/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289423/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193840-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 289437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193842-2	FC-CCR-MW08-1122	Total/NA	Water	SM 2320B	
MB 550-289437/31	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-289437/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-289437/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-289437/43	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-193775-A-6 DU	Duplicate	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193842-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW07-1122

Lab Sample ID: 550-193842-1
Date Collected: 11/16/22 14:12
Matrix: Water
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	289875	AS1	EET PHX	12/01/22 14:32
Total/NA	Analysis	300.0		200	289875	AS1	EET PHX	12/01/22 14:51
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 14:57
Total/NA	Prep	200.7			595156	LJS	EET DEN	12/01/22 17:42
Total/NA	Analysis	200.7 Rev 4.4		1	595469	KRP	EET DEN	12/02/22 17:10
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:37
Total/NA	Prep	245.1			289038	SRR	EET PHX	11/18/22 14:39
Total/NA	Analysis	245.1		1	289067	SRR	EET PHX	11/18/22 18:29
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:08

Client Sample ID: FC-CCR-MW08-1122

Lab Sample ID: 550-193842-2
Date Collected: 11/16/22 13:25
Matrix: Water
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	289993	RDC	EET PHX	12/02/22 16:41
Total/NA	Analysis	300.0		200	289993	RDC	EET PHX	12/02/22 16:59
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 15:00
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		5	289485	CHS	EET PHX	11/23/22 18:51
Total/NA	Prep	200.7			595156	LJS	EET DEN	12/01/22 17:42
Total/NA	Analysis	200.7 Rev 4.4		1	595469	KRP	EET DEN	12/02/22 17:14
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:39
Total/NA	Prep	245.1			289038	SRR	EET PHX	11/18/22 14:39
Total/NA	Analysis	245.1		1	289067	SRR	EET PHX	11/18/22 18:31
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 22:40
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:09

Client Sample ID: FC-CCR-MW49A-1122

Lab Sample ID: 550-193842-3
Date Collected: 11/16/22 09:03
Matrix: Water
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	289993	RDC	EET PHX	12/02/22 17:18
Total/NA	Analysis	300.0		200	289993	RDC	EET PHX	12/02/22 17:36
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 15:02

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193842-1
SDG: APS Four Corners Power Plant (Multiunit)

Client Sample ID: FC-CCR-MW49A-1122

Lab Sample ID: 550-193842-3

Date Collected: 11/16/22 09:03
Date Received: 11/17/22 15:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			595156	LJS	EET DEN	12/01/22 17:42
Total/NA	Analysis	200.7 Rev 4.4		1	595469	KRP	EET DEN	12/02/22 17:18
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:41
Total/NA	Prep	245.1			289038	SRR	EET PHX	11/18/22 14:39
Total/NA	Analysis	245.1		1	289067	SRR	EET PHX	11/18/22 18:33
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:11

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193842-1
SDG: APS Four Corners Power Plant (Multiunit)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	05-31-23
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22 *
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-01-24
Kansas	NELAP	E-10166	04-30-23
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Louisiana (All)	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-23
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-23
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-23
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	09-30-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-23
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-23
Wisconsin	State	999615430	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193842-1
SDG: APS Four Corners Power Plant (Multiunit)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

193842 TestAmerica Laboratories, Inc.

12/8/2022

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Multiunit)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	Sample Specific Notes:
FC-CCR-MW07-1122 -1	11/16/2022	14:12	G	W	2	N	N	X		X			X		X	X	X		Low Flow
FC-CCR-MW08-1122 -2	11/16/2022	13:25	G	W	2	N	N	X			X		X		X	X	X	X	"
FC-CCR-MW49A-1122 -3	11/16/2022	9:03	G	W	2	N	N	X		X			X		X	X	X		"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____								1	4	4	4	4	4	4	4	1	1	1	

550-193842 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

1.1°C Ice CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Brad Hartman	WSP	11-17-22			
Relinquished by:	Company:	Date/Time: 1515	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EETA-PHX	Date/Time: 11/17/22 1515

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No: 550-35428.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-193842-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
FC-CCR-MW07-1122 (550-193842-1)	11/16/22	14:12 Arizona		Water			X	1	AZ Sample
FC-CCR-MW08-1122 (550-193842-2)	11/16/22	13:25 Arizona		Water			X	1	AZ Sample
FC-CCR-MW49A-1122 (550-193842-3)	11/16/22	09:03 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature] 11-18-22	Date/Time: 14:40 EETSW	Company	Received by: Fedex	Date/Time:	Company
Relinquished by: Fedex	Date/Time:	Company	Received by: [signature]	Date/Time: 11/19/22 920	Company ETA/DEL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☑ Yes Δ No
Custody Seal No.: 1882811
Cooler Temperature(s) °C and Other Remarks: 2.1 IR12 CF 0.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193842-1
SDG Number: APS Four Corners Power Plant (Multiunit)

Login Number: 193842
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193842-1
SDG Number: APS Four Corners Power Plant (Multiunit)

Login Number: 193842
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 11/19/22 01:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 12/8/2022 2:13:37 PM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Four Corners Power Plant (Other)

JOB NUMBER

550-193845-1

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix AZ 85040

See page two for job notes and contact information.

my EOL

Eurofins Phoenix

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization

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Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-193845-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-193845-1

Comments
No additional comments.

Receipt
The samples were received on 11/17/2022 3:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.1º C.

HPLC/IC
Method 300.0: The laboratory control sample duplicate (LCSD) associated with analytical batch 550-289643 was outside acceptance criteria for Sulfate due to carry over from a previous sample injection. The results for the batch laboratory control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) were within acceptance limits and may be used to evaluate accuracy precision and matrix performance. As such, results have been reported and qualified with N1 flags on the LCS.

Method 300.0: The following samples were diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-DMX06-1122 (550-193845-1) and FC-CCR-MW11-1122 (550-193845-2). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

Method 300.0: The following sample was diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-MW15-1122 (550-193845-3). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

Method 300.0: The following sample was diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: FC-CCR-MW16-1122 (550-193845-4). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D1 and D5 flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-289388 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-193845-1	FC-CCR-DMX06-1122	Water	11/16/22 10:48	11/17/22 15:15
550-193845-2	FC-CCR-MW11-1122	Water	11/16/22 10:08	11/17/22 15:15
550-193845-3	FC-CCR-MW15-1122	Water	11/16/22 11:35	11/17/22 15:15
550-193845-4	FC-CCR-MW16-1122	Water	11/16/22 12:26	11/17/22 15:15

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX06-1122 — Lab Sample ID: 550-193845-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	830	D2	20		mg/L	10		300.0	Total/NA
Sulfate	7500	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.88		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	5.6		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	380		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	580		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.76		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	40		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2800	D2	2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.011		0.00050		mg/L	1		200.8 LL	Total/NA
Chromium	0.0030		0.0010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.00063		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0042		0.00050		mg/L	1		200.8 LL	Total/NA
Selenium	0.0016		0.00050		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	430		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	430		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	14.6	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW11-1122 — Lab Sample ID: 550-193845-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	3300	D2	200		mg/L	100		300.0	Total/NA
Sulfate	69000	D2	800		mg/L	400		300.0	Total/NA
Boron	0.52	D1	0.50		mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	510	D1	20		mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	9800	D1	20		mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	170	D1	5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Sodium	15000	D2	25		mg/L	50		200.7 Rev 4.4	Total/NA
Cobalt	0.019	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	910		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	910		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	96000	D2	1000		mg/L	1		SM 2540C	Total/NA
pH	6.9	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.8	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW15-1122 — Lab Sample ID: 550-193845-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400		mg/L	200		300.0	Total/NA
Sulfate	6600	D2	400		mg/L	200		300.0	Total/NA
Lithium	1.0		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	7.8		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	710		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.56		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	40		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2300	D2	2.0		mg/L	4		200.7 Rev 4.4	Total/NA
Barium	0.019	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0013	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	880		6.0		mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW15-1122 (Continued) — Lab Sample ID: 550-193845-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	880		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.5	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW16-1122 — Lab Sample ID: 550-193845-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	40		mg/L	20		300.0	Total/NA
Sulfate	16000	D2	400		mg/L	200		300.0	Total/NA
Lithium	1.4		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	8.2		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	410		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.16		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1500	D2	10		mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	51		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3300	D2	2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.022	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Cobalt	0.0069	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Selenium	0.031	D1	0.0010		mg/L	2		200.8 LL	Total/NA
Thallium	0.00048	D1	0.00020		mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	610		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	610		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	14.0	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX06-1122

Lab Sample ID: 550-193845-1

Date Collected: 11/16/22 10:48
Matrix: Water
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**830**	**D2**	20	mg/L			11/29/22 17:55	10
Fluoride	ND	D1 D5	4.0	mg/L			11/29/22 17:55	10
Sulfate	**7500**	**D2**	400	mg/L			11/29/22 18:13	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 15:05	1
Lithium	**0.88**		0.020	mg/L		12/01/22 17:42	12/02/22 17:22	1
Boron	**5.6**		0.050	mg/L		11/21/22 05:41	11/22/22 15:05	1
Calcium	**380**		2.0	mg/L		11/21/22 05:41	11/22/22 15:05	1
Iron	ND		0.10	mg/L		11/21/22 05:41	11/22/22 15:05	1
Magnesium	**580**		2.0	mg/L		11/21/22 05:41	11/22/22 15:05	1
Manganese	**0.76**		0.010	mg/L		11/21/22 05:41	11/22/22 15:05	1
Potassium	**40**		0.50	mg/L		11/21/22 05:41	11/22/22 15:05	1
Sodium	**2800**	**D2**	2.5	mg/L		11/21/22 05:41	11/23/22 18:54	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/21/22 09:32	12/07/22 14:33	1
Arsenic	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:33	1
Barium	**0.011**		0.00050	mg/L		11/21/22 09:32	12/07/22 14:33	1
Cadmium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 14:33	1
Chromium	**0.0030**		0.0010	mg/L		11/21/22 09:32	12/07/22 14:33	1
Cobalt	**0.00063**		0.00050	mg/L		11/21/22 09:32	12/07/22 14:33	1
Lead	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:33	1
Molybdenum	**0.0042**		0.00050	mg/L		11/21/22 09:32	12/07/22 14:33	1
Selenium	**0.0016**		0.00050	mg/L		11/21/22 09:32	12/07/22 14:33	1
Thallium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 14:33	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	**430**		6.0	mg/L			11/23/22 22:50	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/23/22 22:50	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**430**		6.0	mg/L			11/23/22 22:50	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 22:50	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/23/22 22:50	1
Total Dissolved Solids (SM 2540C)	**12000**	**D2**	100	mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	**7.1**	**H5**	1.7	SU			11/21/22 15:26	1
Temperature (SM 4500 H+ B)	**14.6**	**H5 T5**	0.1	Degrees C			11/21/22 15:26	1

Client Sample ID: FC-CCR-MW11-1122

Lab Sample ID: 550-193845-2

Date Collected: 11/16/22 10:08
Matrix: Water
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3300**	**D2**	200	mg/L			11/29/22 21:17	100
Fluoride	ND	D1 D5	40	mg/L			11/29/22 21:17	100

Client Sample ID: FC-CCR-MW11-1122

Lab Sample ID: 550-193845-2

Date Collected: 11/16/22 10:08
Matrix: Water
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**69000**	**D2**	800		mg/L			11/30/22 15:55	400

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	**0.52**	**D1**	0.50		mg/L		11/21/22 05:41	11/23/22 18:57	10
Calcium	**510**	**D1**	20		mg/L		11/21/22 05:41	11/23/22 18:57	10
Magnesium	**9800**	**D1**	20		mg/L		11/21/22 05:41	11/23/22 18:57	10
Potassium	**170**	**D1**	5.0		mg/L		11/21/22 05:41	11/23/22 18:57	10
Sodium	**15000**	**D2**	25		mg/L		11/21/22 05:41	11/28/22 16:59	50

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.019**	**D1**	0.0010		mg/L		11/21/22 09:32	12/07/22 15:31	2
Molybdenum	ND	D1	0.0010		mg/L		11/21/22 09:32	12/07/22 15:31	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	**910**		6.0		mg/L			11/23/22 22:59	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0		mg/L			11/23/22 22:59	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**910**		6.0		mg/L			11/23/22 22:59	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/23/22 22:59	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/23/22 22:59	1
Total Dissolved Solids (SM 2540C)	**96000**	**D2**	1000		mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	**6.9**	**H5**	1.7		SU			11/21/22 15:27	1
Temperature (SM 4500 H+ B)	**12.8**	**H5 T5**	0.1		Degrees C			11/21/22 15:27	1

Client Sample ID: FC-CCR-MW15-1122

Lab Sample ID: 550-193845-3

Date Collected: 11/16/22 11:35
Matrix: Water
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1000**	**D2**	400		mg/L			11/30/22 19:38	200
Fluoride	ND	D1 D5	2.0		mg/L			11/30/22 19:10	5
Sulfate	**6600**	**D2**	400		mg/L			11/30/22 19:38	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:41	11/22/22 15:11	1
Lithium	**1.0**		0.020		mg/L		12/01/22 17:42	12/02/22 17:27	1
Boron	**7.8**		0.050		mg/L		11/21/22 05:41	11/22/22 15:11	1
Calcium	**470**		2.0		mg/L		11/21/22 05:41	11/22/22 15:11	1
Iron	ND		0.10		mg/L		11/21/22 05:41	11/22/22 15:11	1
Magnesium	**710**		2.0		mg/L		11/21/22 05:41	11/22/22 15:11	1
Manganese	**0.56**		0.010		mg/L		11/21/22 05:41	11/22/22 15:11	1
Potassium	**40**		0.50		mg/L		11/21/22 05:41	11/22/22 15:11	1
Sodium	**2300**	**D2**	2.0		mg/L		11/21/22 05:41	11/23/22 19:00	4

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW15-1122

Lab Sample ID: 550-193845-3

Date Collected: 11/16/22 11:35
Matrix: Water
Date Received: 11/17/22 15:15

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1	0.0020	mg/L		11/21/22 09:32	12/07/22 15:33	2
Arsenic	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:33	2
Barium	**0.019**	**D1**	0.0010	mg/L		11/21/22 09:32	12/07/22 15:33	2
Cadmium	ND	D1	0.00020	mg/L		11/21/22 09:32	12/07/22 15:33	2
Chromium	ND	D1	0.0020	mg/L		11/21/22 09:32	12/07/22 15:33	2
Cobalt	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:33	2
Lead	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:33	2
Molybdenum	**0.0013**	**D1**	0.0010	mg/L		11/21/22 09:32	12/07/22 15:33	2
Selenium	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:33	2
Thallium	ND	D1	0.00020	mg/L		11/21/22 09:32	12/07/22 15:33	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	**880**		6.0	mg/L			11/29/22 15:58	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/29/22 15:58	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**880**		6.0	mg/L			11/29/22 15:58	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/29/22 15:58	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/29/22 15:58	1
Total Dissolved Solids (SM 2540C)	**12000**	**D2**	100	mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	**7.1**	**H5**	1.7	SU			11/21/22 15:29	1
Temperature (SM 4500 H+ B)	**12.5**	**H5 T5**	0.1	Degrees C			11/21/22 15:29	1

Client Sample ID: FC-CCR-MW16-1122

Lab Sample ID: 550-193845-4

Date Collected: 11/16/22 12:26
Matrix: Water
Date Received: 11/17/22 15:15

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1000**	**D2**	40	mg/L			12/05/22 19:12	20
Fluoride	ND	D1 D5	8.0	mg/L			12/05/22 19:12	20
Sulfate	**16000**	**D2**	400	mg/L			12/05/22 19:40	200

Method: 40CFR136A 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/21/22 05:41	11/22/22 15:14	1
Lithium	**1.4**		0.020	mg/L		12/01/22 17:42	12/02/22 17:31	1
Boron	**8.2**		0.050	mg/L		11/21/22 05:41	11/22/22 15:14	1
Calcium	**410**		2.0	mg/L		11/21/22 05:41	11/22/22 15:14	1
Iron	**0.16**		0.10	mg/L		11/21/22 05:41	11/22/22 15:14	1
Magnesium	**1500**	**D2**	10	mg/L		11/21/22 05:41	11/23/22 19:02	5
Potassium	**51**		0.50	mg/L		11/21/22 05:41	11/22/22 15:14	1
Sodium	**3300**	**D2**	2.5	mg/L		11/21/22 05:41	11/23/22 19:02	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1	0.0020	mg/L		11/21/22 09:32	12/07/22 15:35	2
Arsenic	ND	D1	0.0010	mg/L		11/21/22 09:32	12/07/22 15:35	2
Barium	**0.022**	**D1**	0.0010	mg/L		11/21/22 09:32	12/07/22 15:35	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW16-1122

Lab Sample ID: 550-193845-4

Date Collected: 11/16/22 12:26
Matrix: Water
Date Received: 11/17/22 15:15

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	D1	0.00020		mg/L		11/21/22 09:32	12/07/22 15:35	2
Chromium	ND	D1	0.0020		mg/L		11/21/22 09:32	12/07/22 15:35	2
Cobalt	**0.0069**	**D1**	0.0010		mg/L		11/21/22 09:32	12/07/22 15:35	2
Lead	ND	D1	0.0010		mg/L		11/21/22 09:32	12/07/22 15:35	2
Molybdenum	ND	D1	0.0010		mg/L		11/21/22 09:32	12/07/22 15:35	2
Selenium	**0.031**	**D1**	0.0010		mg/L		11/21/22 09:32	12/07/22 15:35	2
Thallium	**0.00048**	**D1**	0.00020		mg/L		11/21/22 09:32	12/07/22 15:35	2

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	**610**		6.0		mg/L			11/24/22 00:49	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0		mg/L			11/24/22 00:49	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	**610**		6.0		mg/L			11/24/22 00:49	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/24/22 00:49	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0		mg/L			11/24/22 00:49	1
Total Dissolved Solids (SM 2540C)	**19000**	**D2**	200		mg/L			11/23/22 18:15	1
pH (SM 4500 H+ B)	**7.2**	**H5**	1.7		SU			11/21/22 15:30	1
Temperature (SM 4500 H+ B)	**14.0**	**H5 T5**	0.1		Degrees C			11/21/22 15:30	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-289643/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/29/22 10:49	1
Fluoride	ND		0.40		mg/L			11/29/22 10:49	1
Sulfate	ND		2.0		mg/L			11/29/22 10:49	1

Lab Sample ID: LCS 550-289643/11 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.4		mg/L		102	90 - 110		
Fluoride			4.00	4.06		mg/L		102	90 - 110		
Sulfate			20.0	20.9	N1	mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-289643/10 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride			4.00	4.18		mg/L		104	90 - 110	3	20

Lab Sample ID: 550-193769-A-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	46	D1	200	257	D1	mg/L		105	80 - 120		
Fluoride	ND	D1	40.0	43.8	D1	mg/L		105	80 - 120		
Sulfate	230	D2	200	438	D2	mg/L		105	80 - 120		

Lab Sample ID: 550-193769-A-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289643

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	46	D1	200	256	D1	mg/L		105	80 - 120	0	20
Fluoride	ND	D1	40.0	43.9	D1	mg/L		105	80 - 120	0	20
Sulfate	230	D2	200	437	D2	mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-289768/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/30/22 10:44	1
Fluoride	ND		0.40		mg/L			11/30/22 10:44	1
Sulfate	ND		2.0		mg/L			11/30/22 10:44	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-289768/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.7		mg/L		104	90 - 110		
Fluoride			4.00	4.15		mg/L		104	90 - 110		
Sulfate			20.0	21.0		mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-289768/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.18		mg/L		105	90 - 110	1	20
Sulfate			20.0	21.5		mg/L		108	90 - 110	3	20

Lab Sample ID: 550-193762-G-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	170	D1	100	285	D1	mg/L		115	80 - 120		
Fluoride	ND	D1 D5	20.0	21.5	D1	mg/L		102	80 - 120		
Sulfate	3200	E2 M3 D1	100	3250	D1 E2 M3	mg/L		65	80 - 120		

Lab Sample ID: 550-193762-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289768

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	170	D1	100	289	D1	mg/L		119	80 - 120	1	20
Fluoride	ND	D1 D5	20.0	21.5	D1	mg/L		102	80 - 120	0	20
Sulfate	3200	E2 M3 D1	100	3290	D1 E2 M3	mg/L		106	80 - 120	1	20

Lab Sample ID: MB 550-290080/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290080

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			12/05/22 10:50	1
Fluoride	ND		0.40		mg/L			12/05/22 10:50	1
Sulfate	ND		2.0		mg/L			12/05/22 10:50	1

Lab Sample ID: LCS 550-290080/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290080

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			20.0	20.8		mg/L		104	90 - 110		
Fluoride			4.00	4.16		mg/L		104	90 - 110		
Sulfate			20.0	20.8		mg/L		104	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-290080/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290080

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.18		mg/L		105	90 - 110	0	20
Sulfate			20.0	21.5		mg/L		107	90 - 110	3	20

Lab Sample ID: 550-194416-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290080

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	100	M3	20.0	116	M3	mg/L		79	80 - 120		
Fluoride	1.1		4.00	5.24		mg/L		104	80 - 120		
Sulfate	230	E2 M3	20.0	245	E2 M3	mg/L		53	80 - 120		

Lab Sample ID: 550-194416-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290080

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	100	M3	20.0	117	M3	mg/L		80	80 - 120	0	20
Fluoride	1.1		4.00	5.28		mg/L		105	80 - 120	1	20
Sulfate	230	E2 M3	20.0	245	E2 M3	mg/L		54	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-289121/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010		mg/L		11/21/22 05:41	11/22/22 14:17	1
Boron	ND		0.050		mg/L		11/21/22 05:41	11/22/22 14:17	1
Calcium	ND		2.0		mg/L		11/21/22 05:41	11/22/22 14:17	1
Iron	ND		0.10		mg/L		11/21/22 05:41	11/22/22 14:17	1
Magnesium	ND		2.0		mg/L		11/21/22 05:41	11/22/22 14:17	1
Manganese	ND		0.010		mg/L		11/21/22 05:41	11/22/22 14:17	1
Potassium	ND		0.50		mg/L		11/21/22 05:41	11/22/22 14:17	1
Sodium	ND		0.50		mg/L		11/21/22 05:41	11/22/22 14:17	1

Lab Sample ID: LCS 550-289121/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Beryllium			1.00	1.06		mg/L		106	85 - 115		
Boron			1.00	1.02		mg/L		102	85 - 115		
Calcium			21.0	21.6		mg/L		103	85 - 115		
Iron			1.00	1.00		mg/L		100	85 - 115		
Magnesium			21.0	21.2		mg/L		101	85 - 115		
Manganese			1.00	1.01		mg/L		101	85 - 115		
Potassium			20.0	19.6		mg/L		98	85 - 115		

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-289121/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	20.0	20.5		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-289121/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.05		mg/L		105	85 - 115	1	20
Boron	1.00	0.991		mg/L		99	85 - 115	3	20
Calcium	21.0	21.4		mg/L		102	85 - 115	1	20
Iron	1.00	0.993		mg/L		99	85 - 115	1	20
Magnesium	21.0	20.8		mg/L		99	85 - 115	2	20
Manganese	1.00	0.989		mg/L		99	85 - 115	2	20
Potassium	20.0	19.3		mg/L		96	85 - 115	1	20
Sodium	20.0	20.2		mg/L		101	85 - 115	1	20

Lab Sample ID: 550-193775-B-26-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.11		mg/L		111	70 - 130
Boron	43	M3	1.00	42.4	M3	mg/L		-37	70 - 130
Calcium	450	M3	21.0	455	M3	mg/L		6	70 - 130
Iron	0.55		1.00	1.60		mg/L		106	70 - 130
Magnesium	950	M3	21.0	930	M3	mg/L		-98	70 - 130
Manganese	1.2		1.00	2.12		mg/L		95	70 - 130
Potassium	35		20.0	56.3		mg/L		105	70 - 130

Lab Sample ID: 550-193775-B-26-A MS ^4 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289485 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	1900	M3 D2	20.0	1880	D2 M3	mg/L		-160	70 - 130

Lab Sample ID: 550-193775-B-26-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289388 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.13		mg/L		113	70 - 130	2	20
Boron	43	M3	1.00	41.6	M3	mg/L		-119	70 - 130	2	20
Calcium	450	M3	21.0	460	M3	mg/L		30	70 - 130	1	20
Iron	0.55		1.00	1.64		mg/L		109	70 - 130	2	20
Magnesium	950	M3	21.0	939	M3	mg/L		-57	70 - 130	1	20
Manganese	1.2		1.00	2.08		mg/L		91	70 - 130	2	20
Potassium	35		20.0	57.4		mg/L		110	70 - 130	2	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-193775-B-26-B MSD ^4 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289485 — **Prep Batch: 289121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	1900	M3 D2	20.0	1860	D2 M3	mg/L		-240	70 - 130	1	20

Lab Sample ID: MB 280-595156/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595469 — **Prep Batch: 595156**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020		mg/L		12/01/22 17:42	12/02/22 16:42	1

Lab Sample ID: LCS 280-595156/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595469 — **Prep Batch: 595156**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium			1.00	0.995		mg/L		99	90 - 112		

Lab Sample ID: LCSD 280-595156/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595469 — **Prep Batch: 595156**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium			1.00	0.989		mg/L		99	90 - 112	1	20

Lab Sample ID: 280-169706-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595469 — **Prep Batch: 595156**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Lithium	ND		1.00	1.00		mg/L		100	70 - 130		

Lab Sample ID: 280-169706-A-2-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 595469 — **Prep Batch: 595156**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	ND		1.00	0.982		mg/L		98	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-289144/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010		mg/L		11/21/22 09:32	12/07/22 14:15	1
Arsenic	ND		0.00050		mg/L		11/21/22 09:32	12/07/22 14:15	1
Barium	ND		0.00050		mg/L		11/21/22 09:32	12/07/22 14:15	1
Cadmium	ND		0.00010		mg/L		11/21/22 09:32	12/07/22 14:15	1
Chromium	ND		0.0010		mg/L		11/21/22 09:32	12/07/22 14:15	1
Cobalt	ND		0.00050		mg/L		11/21/22 09:32	12/07/22 14:15	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-289144/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Molybdenum	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Selenium	ND		0.00050	mg/L		11/21/22 09:32	12/07/22 14:15	1
Thallium	ND		0.00010	mg/L		11/21/22 09:32	12/07/22 14:15	1

Lab Sample ID: LCS 550-289144/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.102		mg/L		102	85 - 115
Arsenic	0.100	0.102		mg/L		102	85 - 115
Barium	0.100	0.102		mg/L		102	85 - 115
Cadmium	0.100	0.0961		mg/L		96	85 - 115
Chromium	0.100	0.0955		mg/L		95	85 - 115
Cobalt	0.100	0.0981		mg/L		98	85 - 115
Lead	0.100	0.0917		mg/L		92	85 - 115
Molybdenum	0.100	0.0981		mg/L		98	85 - 115
Selenium	0.100	0.106		mg/L		106	85 - 115
Thallium	0.100	0.0953		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-289144/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0930		mg/L		93	85 - 115	9	20
Arsenic	0.100	0.0852		mg/L		85	85 - 115	18	20
Barium	0.100	0.114		mg/L		114	85 - 115	11	20
Cadmium	0.100	0.0900		mg/L		90	85 - 115	7	20
Chromium	0.100	0.0980		mg/L		98	85 - 115	3	20
Cobalt	0.100	0.0974		mg/L		97	85 - 115	1	20
Lead	0.100	0.0899		mg/L		90	85 - 115	2	20
Molybdenum	0.100	0.0894		mg/L		89	85 - 115	9	20
Selenium	0.100	0.0903		mg/L		90	85 - 115	16	20
Thallium	0.100	0.0931		mg/L		93	85 - 115	2	20

Lab Sample ID: 550-193775-C-26-A MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.109		mg/L		109	70 - 130
Arsenic	0.00065		0.100	0.112		mg/L		112	70 - 130
Barium	0.015		0.100	0.133		mg/L		118	70 - 130
Cadmium	0.00062		0.100	0.0975		mg/L		97	70 - 130
Chromium	0.0012		0.100	0.0964		mg/L		95	70 - 130
Cobalt	0.020		0.100	0.114		mg/L		94	70 - 130
Lead	0.0036		0.100	0.0942		mg/L		91	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-193775-C-26-A MS T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Molybdenum	0.0025		0.100	0.109		mg/L		106	70 - 130
Selenium	0.00064		0.100	0.130		mg/L		129	70 - 130
Thallium	0.00022		0.100	0.0933		mg/L		93	70 - 130

Lab Sample ID: 550-193775-C-26-B MSD T — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 290278 — **Prep Batch: 289144**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.104		mg/L		104	70 - 130	5	20
Arsenic	0.00065		0.100	0.107		mg/L		106	70 - 130	5	20
Barium	0.015		0.100	0.133		mg/L		118	70 - 130	0	20
Cadmium	0.00062		0.100	0.0930		mg/L		92	70 - 130	5	20
Chromium	0.0012		0.100	0.0923		mg/L		91	70 - 130	4	20
Cobalt	0.020		0.100	0.110		mg/L		89	70 - 130	4	20
Lead	0.0036		0.100	0.0899		mg/L		86	70 - 130	5	20
Molybdenum	0.0025		0.100	0.106		mg/L		104	70 - 130	2	20
Selenium	0.00064		0.100	0.127		mg/L		127	70 - 130	2	20
Thallium	0.00022		0.100	0.0881		mg/L		88	70 - 130	6	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-289437/31 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			11/23/22 21:13	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			11/23/22 21:13	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			11/23/22 21:13	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			11/23/22 21:13	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			11/23/22 21:13	1

Lab Sample ID: LCS 550-289437/30 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	246		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-289437/17 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	244		mg/L		97	90 - 110	10	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCSD 550-289437/43 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	256		mg/L		102	90 - 110	4	20

Lab Sample ID: 550-193762-E-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	73			74.8		mg/L				2	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Bicarbonate Alkalinity as CaCO3	73			74.8		mg/L				2	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Lab Sample ID: 550-193775-A-6 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289437

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	870			875		mg/L				1	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Bicarbonate Alkalinity as CaCO3	870			875		mg/L				1	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Lab Sample ID: MB 550-289706/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289706

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			11/29/22 15:38	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			11/29/22 15:38	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			11/29/22 15:38	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			11/29/22 15:38	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			11/29/22 15:38	1

Lab Sample ID: LCS 550-289706/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289706

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity as CaCO3			250	258		mg/L		103	90 - 110		

Lab Sample ID: LCSD 550-289706/16 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289706

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	246		mg/L		98	90 - 110	5	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-194079-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289706

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	220			220		mg/L				0.07	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Bicarbonate Alkalinity as CaCO3	220			220		mg/L				0.07	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-289423/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			11/23/22 18:15	1

Lab Sample ID: LCS 550-289423/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-289423/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110	0	10

Lab Sample ID: 550-193840-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289423

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	21000	D2		20400	D2	mg/L				0.9	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-289225/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 289225

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-289225/37
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits		
pH			7.00	7.0		SU		100.0	98.5 - 101.5		

Lab Sample ID: 550-193838-A-1 DU
Matrix: Water
Analysis Batch: 289225

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.6	H5		8.6	H5	SU				0.2	5
Temperature	13.4	H5		13.4	H5	Degrees C				0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

HPLC/IC

Analysis Batch: 289643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	300.0	
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	300.0	
550-193845-2	FC-CCR-MW11-1122	Total/NA	Water	300.0	
MB 550-289643/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289643/11	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289643/10	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193769-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
550-193769-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 289768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-2	FC-CCR-MW11-1122	Total/NA	Water	300.0	
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	300.0	
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	300.0	
MB 550-289768/2	Method Blank	Total/NA	Water	300.0	
LCS 550-289768/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-289768/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-193762-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-193762-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 290080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	300.0	
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	300.0	
MB 550-290080/2	Method Blank	Total/NA	Water	300.0	
LCS 550-290080/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-290080/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-194416-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-194416-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 289121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	200.7	
550-193845-2	FC-CCR-MW11-1122	Total/NA	Water	200.7	
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	200.7	
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	200.7	
MB 550-289121/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-289121/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-289121/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-193775-B-26-A MS	Matrix Spike	Total/NA	Water	200.7	
550-193775-B-26-A MS ^4	Matrix Spike	Total/NA	Water	200.7	
550-193775-B-26-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-193775-B-26-B MSD ^4	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 289144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	200.8	
550-193845-2	FC-CCR-MW11-1122	Total/NA	Water	200.8	
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 289144 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	200.8	
MB 550-289144/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-289144/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-289144/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-193775-C-26-A MS T	Matrix Spike	Total/NA	Water	200.8	
550-193775-C-26-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 289388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	200.7 Rev 4.4	289121
MB 550-289121/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	289121
LCS 550-289121/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	289121
LCSD 550-289121/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	289121

Analysis Batch: 289485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193845-2	FC-CCR-MW11-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-A MS ^4	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	289121
550-193775-B-26-B MSD ^4	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	289121

Analysis Batch: 289572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-2	FC-CCR-MW11-1122	Total/NA	Water	200.7 Rev 4.4	289121

Analysis Batch: 290278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	200.8 LL	289144
550-193845-2	FC-CCR-MW11-1122	Total/NA	Water	200.8 LL	289144
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	200.8 LL	289144
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	200.8 LL	289144
MB 550-289144/1-A	Method Blank	Total/NA	Water	200.8 LL	289144
LCS 550-289144/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	289144
LCSD 550-289144/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	289144
550-193775-C-26-A MS T	Matrix Spike	Total/NA	Water	200.8 LL	289144
550-193775-C-26-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	289144

Prep Batch: 595156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	200.7	
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	200.7	
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	200.7	
MB 280-595156/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-595156/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-595156/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 595156 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-169706-A-2-B MS	Matrix Spike	Total/NA	Water	200.7	
280-169706-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 595469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	200.7 Rev 4.4	595156
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	200.7 Rev 4.4	595156
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	200.7 Rev 4.4	595156
MB 280-595156/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	595156
LCS 280-595156/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	595156
LCSD 280-595156/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	595156
280-169706-A-2-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	595156
280-169706-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	595156

General Chemistry

Analysis Batch: 289225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	SM 4500 H+ B	
550-193845-2	FC-CCR-MW11-1122	Total/NA	Water	SM 4500 H+ B	
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	SM 4500 H+ B	
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-289225/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-193838-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 289423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	SM 2540C	
550-193845-2	FC-CCR-MW11-1122	Total/NA	Water	SM 2540C	
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	SM 2540C	
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	SM 2540C	
MB 550-289423/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-289423/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-289423/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-193840-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 289437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-1	FC-CCR-DMX06-1122	Total/NA	Water	SM 2320B	
550-193845-2	FC-CCR-MW11-1122	Total/NA	Water	SM 2320B	
550-193845-4	FC-CCR-MW16-1122	Total/NA	Water	SM 2320B	
MB 550-289437/31	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-289437/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-289437/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-289437/43	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-193762-E-3 DU	Duplicate	Total/NA	Water	SM 2320B	
550-193775-A-6 DU	Duplicate	Total/NA	Water	SM 2320B	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

General Chemistry

Analysis Batch: 289706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-193845-3	FC-CCR-MW15-1122	Total/NA	Water	SM 2320B	
MB 550-289706/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-289706/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-289706/16	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-194079-E-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-DMX06-1122

Lab Sample ID: 550-193845-1
Matrix: Water
Date Collected: 11/16/22 10:48
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	289643	AS1	EET PHX	11/29/22 17:55
Total/NA	Analysis	300.0		200	289643	AS1	EET PHX	11/29/22 18:13
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 15:05
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		5	289485	CHS	EET PHX	11/23/22 18:54
Total/NA	Prep	200.7			595156	LJS	EET DEN	12/01/22 17:42
Total/NA	Analysis	200.7 Rev 4.4		1	595469	KRP	EET DEN	12/02/22 17:22
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		1	290278	ARE	EET PHX	12/07/22 14:33
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 22:50
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:26

Client Sample ID: FC-CCR-MW11-1122

Lab Sample ID: 550-193845-2
Matrix: Water
Date Collected: 11/16/22 10:08
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		100	289643	AS1	EET PHX	11/29/22 21:17
Total/NA	Analysis	300.0		400	289768	AS1	EET PHX	11/30/22 15:55
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		10	289485	CHS	EET PHX	11/23/22 18:57
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		50	289572	CHS	EET PHX	11/28/22 16:59
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:31
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/23/22 22:59
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:27

Client Sample ID: FC-CCR-MW15-1122

Lab Sample ID: 550-193845-3
Matrix: Water
Date Collected: 11/16/22 11:35
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	289768	AS1	EET PHX	11/30/22 19:10
Total/NA	Analysis	300.0		200	289768	AS1	EET PHX	11/30/22 19:38
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 15:11
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		4	289485	CHS	EET PHX	11/23/22 19:00
Total/NA	Prep	200.7			595156	LJS	EET DEN	12/01/22 17:42
Total/NA	Analysis	200.7 Rev 4.4		1	595469	KRP	EET DEN	12/02/22 17:27

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

Client Sample ID: FC-CCR-MW15-1122

Lab Sample ID: 550-193845-3
Matrix: Water
Date Collected: 11/16/22 11:35
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:33
Total/NA	Analysis	SM 2320B		1	289706	MEG	EET PHX	11/29/22 15:58
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:29

Client Sample ID: FC-CCR-MW16-1122

Lab Sample ID: 550-193845-4
Matrix: Water
Date Collected: 11/16/22 12:26
Date Received: 11/17/22 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	290080	AS1	EET PHX	12/05/22 19:12
Total/NA	Analysis	300.0		200	290080	AS1	EET PHX	12/05/22 19:40
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		1	289388	CHS	EET PHX	11/22/22 15:14
Total/NA	Prep	200.7			289121	SGO	EET PHX	11/21/22 05:41
Total/NA	Analysis	200.7 Rev 4.4		5	289485	CHS	EET PHX	11/23/22 19:02
Total/NA	Prep	200.7			595156	LJS	EET DEN	12/01/22 17:42
Total/NA	Analysis	200.7 Rev 4.4		1	595469	KRP	EET DEN	12/02/22 17:31
Total/NA	Prep	200.8			289144	SGO	EET PHX	11/21/22 09:32
Total/NA	Analysis	200.8 LL		2	290278	ARE	EET PHX	12/07/22 15:35
Total/NA	Analysis	SM 2320B		1	289437	JNW	EET PHX	11/24/22 00:49
Total/NA	Analysis	SM 2540C		1	289423	AS1	EET PHX	11/23/22 18:15 - 11/30/22 09:31 [1]
Total/NA	Analysis	SM 4500 H+ B		1	289225	MAN	EET PHX	11/21/22 15:30

[1] Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	05-31-23
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22 *
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-01-24
Kansas	NELAP	E-10166	04-30-23
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Louisiana (All)	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-23
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-23
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-23
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	09-30-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-23
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-23
Wisconsin	State	999615430	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-193845-1
SDG: APS Four Corners Power Plant (Other)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

193845

TestAmerica Laboratories, Inc.

12/8/2022

Client Contact	Natalie Chrisman	Pam Norris (505-598-8781)	Date:	COC No:
Arizona Public Service	602-250-3608	Lab Contact: Rachel Sester	Carrier:	1 of 1 COCs
PO Box 355, MS 4915	Analysis Turnaround Time			Sampler:
Fruitland, NM 87416	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Four Corners Power Plant (Other)	☐ 2 days			Job / SDG No.:
PO #: 100617121	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Fe)	EPA 200.7 - Totals (B, Ca, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Li, K, Mg, Na, Mn, Fe)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na, Mn, Fe)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Totals (Co, Mo)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as	Sample Specific Notes:
FC-CCR-DMX06-1122 -1	11/16/2022	10:48	G	W	2	N	N	X						X	X			X	X	X	"
FC-CCR-MW11-1122 -2	11/16/2022	10:08	G	W	2	N	N	X				X				X		X	X	X	"
FC-CCR-MW15-1122 -3	11/16/2022	11:35	G	W	2	N	N	X						X	X			X	X	X	"
FC-CCR-MW16-1122 -4	11/16/2022	12:26	G	W	2	N	N	X			X				X			X	X	X	"
								1	4	4	4	4	4	4	4	4	4	1	1	1	

550-193845 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

1.1°C ice CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Brad Hartman	WSP	11-17-22			
Relinquished by:	Company:	Date/Time: 1515	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EETA-PHX	Date/Time: 11/17/22 1515

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Roberts, Danielle C	Carrier Tracking No(s)	COC No: 550-35428.1
Client Contact: Shipping/Receiving	Phone	E-Mail: Danielle.Roberts@et.eurofinsus.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-193845-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/5/2022			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-DMX06-1122 (550-193845-1)	11/16/22	10:48 Arizona		Water			X	1	AZ Sample
FC-CCR-MW15-1122 (550-193845-3)	11/16/22	11:35 Arizona		Water			X	1	AZ Sample
FC-CCR-MW16-1122 (550-193845-4)	11/16/22	12:26 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature] 11-18-22	14:40	EETSW	Fedex		
Fedex			[signature]	11/19/22 920	ETA/DEW

Custody Seals Intact: ☑ Yes Δ No

Custody Seal No.: 1882811

Cooler Temperature(s) °C and Other Remarks: 2.1 IRR CF 0.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193845-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 193845
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-193845-1
SDG Number: APS Four Corners Power Plant (Other)

Login Number: 193845
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins Denver
List Creation: 11/19/22 01:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 15, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW87-1122	1.5 ± 0.2	3.3 ± 0.4	4.8 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/6/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

November 15, 2022 — Sample Date

15:27 (24 hour clock) — Sample Time

Owner/Contact Person: _____

Owner/Contact Fax Number: _____

Owner/Contact Phone Number: _____

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	4.8 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	1.5 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	3.3 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70579

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW87-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (Multiunit)

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225
Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
FC-CCR-MW87-1122	11/15/2022	1527	GW						X	X	X					70579

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
			Pat Flannery	RSE	11.16.22 2:51
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW62-1122	0.4 ± 0.2	0.6 ± 0.4	1.0 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/6/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 — Sample Date; 11:57 (24 hour clock) — Sample Time; _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.0 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	0.6 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70559

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW62-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW63-1122	< 0.4	< 0.6	< 0.6

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/6/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 (Sample Date) 12:28 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ Owner/Contact Fax Number _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70560

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW63-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW64-1122	0.8 ± 0.2	< 0.6	0.8 ± 0.2

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/6/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 (Sample Date) 13:33 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	0.8 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.8 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70561

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW64-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW65-1122	< 0.4	< 0.6	< 0.6

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/6/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 (Sample Date) 9:37 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70562

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW65-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (CWTP)

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225
Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
FC-CCR-MW62-1122	11/13/2022	11:57	GW						X	X	X					70559
FC-CCR-MW63-1122	11/13/2022	12:28	GW						X	X	X					70560
FC-CCR-MW64-1122	11/13/2022	13:33	GW						X	X	X					70561
FC-CCR-MW65-1122	11/13/2022	9:37	GW						X	X	X					70562

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By:	Company:	Date/time: 11/16/22@08:00	Received By: Derrick Smike	Company: A-Hot Sfer	Date/time: 11-16-2022 7:48 AM
Relinquished By:	Company: A-Hot Sfer	Date/time: 11-16-2022 2:46 pm	Received By: Pat Flannery	Company: RSE	Date/time: 11-16-22 2:51
Relinquished By:	Company:	Date/time:	Received By: Pat Flannery	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

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Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 11, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW61-1122	< 0.3	< 0.6	< 0.6

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/6/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 11, 2022 — Sample Date; 9:25 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70570

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW61/1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 11, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW75-1122	0.7 ± 0.2	< 0.6	0.7 ± 0.2

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/6/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

November 11, 2022 — Sample Date

10:33 (24 hour clock) — Sample Time

Owner/Contact Person: _____

Owner/Contact Fax Number: _____

Owner/Contact Phone Number: _____

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	0.7 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.7 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70571

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW75-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (Multiunit)

Radiation Safety Engineering, Inc.

3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
FC-CCR-MW61-1122	11/11/2022	9:25	GW						X	X	X					70570
FC-CCR-MW75-1122	11/11/2022	10:33	GW						X	X	X					70571

Sample Receipt

Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By:	Company: USP	Date/time: 11/16/22 05:00	Received By:	Company: A-Hasselt	Date/time: 11-16-22 7:58 AM
Relinquished By:	Company: A-Hasselt	Date/time: 11-16-22 2:40pm	Received By:	Company: RSE	Date/time: 11-16-22 2:51
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

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Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 11, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-DMX03-1122	0.6 ± 0.2	0.7 ± 0.3	1.3 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers 12/6/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 11, 2022 (Sample Date) 15:00 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.3 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	0.7 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70563

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-DMX03-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 14, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-DMX04-1122	< 0.4	< 0.6	< 0.6

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/6/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 14, 2022 — Sample Date
13:37 (24 hour clock) — Sample Time
_____ Owner/Contact Person

_____ Owner/Contact Fax Number
_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70564

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-DMX04-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 14, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW06-1122	< 0.3	< 0.6	< 0.6

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/6/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 14, 2022 (Sample Date) 15:17 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70565

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW06-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 15, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW17R-1122	1.5 ± 0.3	0.9 ± 0.4	2.4 ± 0.5

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/6/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 15, 2022 (Sample Date) 12:47 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	2.4 ± 0.5	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	1.5 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	0.9 ± 0.4	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70566

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW17R-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 15, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW38R-1122	< 0.3	< 0.6	< 0.6

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/6/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 15, 2022 — Sample Date
13:33 (24 hour clock) — Sample Time
_____ Owner/Contact Person

_____ Owner/Contact Fax Number
_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70567

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW38B-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 15, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW56-1122	1.0 ± 0.2	2.7 ± 0.4	3.7 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/6/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 15, 2022 (Sample Date) 11:58 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	3.7 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	1.0 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	2.7 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70568

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW56-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 15, 2022
Sample Received: November 16, 2022
Analysis Completed: December 05, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW57-1122	0.6 ± 0.2	0.8 ± 0.5	1.4 ± 0.5

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/6/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 15, 2022 (Sample Date) 14:32 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.4 ± 0.5		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	0.8 ± 0.5		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70569

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW57-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (Other)

Radiation Safety Engineering, Inc.

3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-DMX03-1122	11/11/2022	15:00	GW						X	X	X						70563
FC-CCR-DMX04-1122	11/14/2022	13:37	GW						X	X	X						70564
FC-CCR-MW06-1122	11/14/2022	15:17	GW						X	X	X						70565
FC-CCR-MW17R-1122	11/15/2022	12:47	GW						X	X	X						70566
FC-CCR-MW38R-1122	11/15/2022	13:33	GW						X	X	X						70567
FC-CCR-MW56-1122	11/15/2022	11:58	GW						X	X	X						70568
FC-CCR-MW57-1122	11/15/2022	14:32	GW						X	X	X						70569

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

11/16/22 08:00

Relinquished By:	Company: WSP	Date/time:	Received By:		Company: A-Not-Sitet	Date/time: 11-16-22 7:58 AM
Relinquished By:	Company: A-Not-Sitet	Date/time: 11-16-2022 2:46	Received By:		Company: RSE	Date/time: 11.16.22 2:51
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW66-1122	0.5 ± 0.2	2.7 ± 0.4	3.2 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 (Sample Date) 11:12 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ Owner/Contact Fax Number _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	3.2 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.5 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	2.7 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70547

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW66-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW68-1122	< 0.4	1.3 ± 0.4	1.3 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/9/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 — Sample Date
16:10 (24 hour clock) — Sample Time
_____ Owner/Contact Person

_____ Owner/Contact Fax Number
_____ Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.3 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	1.3 ± 0.4		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70548
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: FC-CCR-MW68-1122
Authorized Signature: [signature]
Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 14, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW69-1122	< 0.4	1.3 ± 0.4	1.3 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 14, 2022 — Sample Date; 8:52 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.3 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	1.3 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70549

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW69-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 17, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW70-1122	< 0.4	2.4 ± 0.4	2.4 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/9/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 (Sample Date) 8:32 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	2.4 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	2.4 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70550

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW70-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW71-1122	< 0.4	1.0 ± 0.4	1.0 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 — Sample Date
15:20 (24 hour clock) — Sample Time
_____ Owner/Contact Person

_____ Owner/Contact Fax Number
_____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.0 ± 0.4	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	1.0 ± 0.4	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70551

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW7[illegible]1122

Authorized Signature: [illegible]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW72-1122	< 0.4	1.9 ± 0.4	1.9 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 (Sample Date) 14:33 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.9 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	1.9 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70552

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW72-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 14, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW73-1122	2.7 ± 0.3	2.2 ± 0.4	4.9 ± 0.5

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 14, 2022 (Sample Date) 11:53 (Sample Time) (24 hour clock) _____ Owner/Contact Person

_____ Owner/Contact Fax Number _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	4.9 ± 0.5		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	2.7 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	2.2 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70553

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW73-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 14, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW83-1122	1.0 ± 0.2	< 0.6	1.0 ± 0.2

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 14, 2022 (Sample Date) 10:38 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.0 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	1.0 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70554

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW83-h122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 14, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW84-1122	2.5 ± 0.3	2.0 ± 0.4	4.5 ± 0.5

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/9/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 14, 2022 — Sample Date; 9:42 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	4.5 ± 0.5		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	2.5 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	2.0 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70555

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW84-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW86-1122	0.4 ± 0.2	< 0.6	0.4 ± 0.2

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 (Sample Date) 10:22 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70556

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW86-1122

Authorized Signature: alex [illegible]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 14, 2022
Sample Received: November 17, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-FD01-1122	2.6 ± 0.2	< 0.6	2.6 ± 0.2

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 14, 2022 (Sample Date) 14:20 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	2.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	2.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70557

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-FD01-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 13, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-FD02-1122	1.9 ± 0.2	< 0.6	1.9 ± 0.2
Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/9/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 13, 2022 — Sample Date; 13:11 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.9 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	1.9 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70558

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-FD02-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (URS)

Radiation Safety Engineering, Inc.

3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
FC-CCR-MW66-1122	11/13/2022	11:12	GW						X	X	X					70547
FC-CCR-MW68-1122	11/13/2022	16:10	GW						X	X	X					70548
FC-CCR-MW69-1122	11/14/2022	8:52	GW						X	X	X					70549
FC-CCR-MW70-1122	11/13/2022	8:32	GW						X	X	X					70550
FC-CCR-MW71-1122	11/13/2022	15:20	GW						X	X	X					70551
FC-CCR-MW72-1122	11/13/2022	14:33	GW						X	X	X					70552
FC-CCR-MW73-1122	11/14/2022	11:53	GW						X	X	X					70553
FC-CCR-MW83-1122	11/14/2022	10:38	GW						X	X	X					70554
FC-CCR-MW84-1122	11/14/2022	9:42	GW						X	X	X					70555

Sample Receipt

Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By:	Company: USP	Date/time: 11/16/22 09:00	Received By:		Company: A-Hot Stuff	Date/time: 11-16-2022 7:58
Relinquished By:	Company: A-Hot Stuff	Date/time: 11-16-2022 2:46 pm	Received By:		Company: RSE	Date/time: 11-16-22 2:51
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (URS)

Radiation Safety Engineering, Inc.

3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-MW86-1122	11/13/2022	10:22	GW						X	X	X						70556
FC-CCR-FD01-1122	11/14/2022	14:20	GW						X	X	X						70557
FC-CCR-FD02-1122	11/13/2022	13:11	GW						X	X	X						70558

Sample Receipt

Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

11/16/22 @ 08:00

Relinquished By:	Company: WSP	Date/time:	Received By:		Company: A Hotstart	Date/time: 11/16/22 7:55AM	
Relinquished By:	Company: A Hotstart	Date/time: 11-16-22 2:46pm	Received By: Pat Flemming		Company: RSE	Date/time: 11-16-22 2:51	
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:	

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 17, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-SW1-1122	< 0.3	< 0.7	< 0.7

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

November 16, 2022 — Sample Date

14:45 (24 hour clock) — Sample Time

Owner/Contact Person: _____

Owner/Contact Fax Number: _____

Owner/Contact Phone Number: _____

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70589

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-SW1-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 17, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-SW2-1122	< 0.3	< 0.7	< 0.7

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 16, 2022 — Sample Date; 17:06 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70590

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-SW221122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 17, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-SW3-1122	< 0.3	< 0.7	< 0.7

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 16, 2022 — Sample Date; 16:54 (24 hour clock) — Sample Time; _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70591

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-SW3-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-FD08-1122	0.6 ± 0.2	< 0.7	0.6 ± 0.2

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/9/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 16, 2022 — Sample Date; 9:33 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70592

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-FD08-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (CWTP)

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225
Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-SW1-1122	11/16/2022	14:45	GW						X	X	X						70589
FC-CCR-SW2-1122	11/16/2022	17:06	GW						X	X	X						70590
FC-CCR-SW3-1122	11/16/2022	16:54	GW						X	X	X						70591
FC-CCR-FD08-1122	11/16/2022	9:33	GW						X	X	X						70592

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By: Brad Harrison	Company: WSP	Date/time: 17 Nov 22	Received By:		Company:	Date/time: 11/17/22
Relinquished By:	Company:	Date/time: 1450	Received By:		Company:	Date/time: 1450
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 17, 2022
Analysis Completed: December 07, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW07-1122	0.6 ± 0.2	0.9 ± 0.4	1.5 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/7/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 16, 2022 (Sample Date) 14:12 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.5 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	0.9 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70584

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW07/1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 17, 2022
Analysis Completed: December 07, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW08-1122	1.1 ± 0.2	1.9 ± 0.4	3.0 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/7/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 16, 2022 — Sample Date
13:25 (24 hour clock) — Sample Time
_____ Owner/Contact Person

_____ Owner/Contact Fax Number
_____ Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	3.0 ± 0.4	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	1.1 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	1.9 ± 0.4	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70585

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW08-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 17, 2022
Analysis Completed: December 07, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW49A-1122	0.4 ± 0.2	< 0.7	0.4 ± 0.2

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/7/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 16, 2022 — Sample Date; 9:03 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70586

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW49A-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (Multiunit)

Radiation Safety Engineering, Inc.

3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-MW07-1122	11/16/2022	14:12	GW						X	X	X						70584
FC-CCR-MW08-1122	11/16/2022	13:25	GW						X	X	X						70585
FC-CCR-MW49A-1122	11/16/2022	9:03	GW						X	X	X						70586

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By: Brad Hartman	Company: WSP	Date/time: 11-17-22	Received By: [signature]		Company:	Date/time: 11/17/22
Relinquished By:	Company:	Date/time: 1450	Received By:		Company:	Date/time: 1450
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 17, 2022
Analysis Completed: December 07, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-DMX06-1122	0.8 ± 0.2	< 0.7	0.8 ± 0.2

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers 12/7/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

November 16, 2022 — Sample Date

10:48 (24 hour clock) — Sample Time

Owner/Contact Person: _____

Owner/Contact Fax Number: _____

Owner/Contact Phone Number: _____

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	0.8 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.8 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70581

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-DMX061122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 17, 2022
Analysis Completed: December 07, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW15-1122	< 0.3	< 0.7	< 0.7

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

12/7/2022

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 16, 2022 (Sample Date) 11:35 (Sample Time) (24 hour clock) _____ Owner/Contact Person

_____ Owner/Contact Fax Number _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70582

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW1[illegible]-1122

Authorized Signature: [illegible]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 17, 2022
Analysis Completed: December 07, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW16-1122	1.9 ± 0.2	3.2 ± 0.5	5.1 ± 0.5

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/7/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 16, 2022 — Sample Date; 12:26 (24 hour clock) — Sample Time; _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	5.1 ± 0.5		X
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	1.9 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	3.2 ± 0.5		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70583

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW16-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (Other)

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225
Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-DMX06-1122	11/16/2022	10:48	GW						X	X	X						70581
FC-CCR-MW15-1122	11/16/2022	11:35	GW						X	X	X						70582
FC-CCR-MW16-1122	11/16/2022	12:26	GW						X	X	X						70583

Sample Receipt

Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By: Brad Harman	Company: NSP	Date/time: 11-17-22 1450	Received By:		Company:	Date/time: 11/17/22 1450
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

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Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 17, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW67-1122	0.4 ± 0.2	1.8 ± 0.4	2.2 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/9/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 16, 2022 — Sample Date; 15:30 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	2.2 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	1.8 ± 0.4		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70587

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW67-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 16, 2022
Sample Received: November 16, 2022
Analysis Completed: December 09, 2022

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW85-1122	1.0 ± 0.2	0.9 ± 0.3	1.9 ± 0.4

Date of Analysis	11/18/2022	11/18/2022	11/18/2022

Alex Myers, Ph.D. 12/9/2022
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

November 16, 2022 (Sample Date) 16:12 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: _____

☐ Quarterly — Date Q2 collected: _____

☐ Composite of four quarterly samples — Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/18/2022	1.9 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/18/2022	1.0 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/18/2022	0.9 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE70588

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: FC-CCR-MW85-1122

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Pam Norris/505-598-8781
Company	Arizona Public Service
Address	PO Box 355, MS 4915 Fruitland, NM 87416
Phone	
Site	APS Four Corners Power Plant (URS)

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225
Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
FC-CCR-MW67-1122	11/16/2022	15:30	GW						X	X	X						70587
FC-CCR-MW85-1122	11/16/2022	16:12	GW						X	X	X						70588

Sample Receipt

Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO#: 100617016

Instructions/Comments
Method HPGe

Relinquished By: Brad Hartman	Company: WSP	Date/time: 11-17-22	Received By:		Company:	Date/time: 11/17/22
Relinquished By:	Company:	Date/time: 1450	Received By:		Company:	Date/time: 1450
Relinquished By:	Company:	Date/time:	Received By:		Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

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APPENDIX

J

2022 DATA VALIDATION REPORT

ARIZONA PUBLIC SERVICE COMPANY

2022 DATA VALIDATION REPORT

CCR RULE COMPLIANCE GROUNDWATER MONITORING DATA – APS FOUR CORNERS POWER PLANT
ARIZONA PUBLIC SERVICE FOUR CORNERS POWER PLANT
FRUITLAND, NEW MEXICO

Please be advised that, effective September 21, 2022, Wood Environment & Infrastructure Solutions, Inc. Was acquired by WSP. Due to the acquisition, we have changed our name to WSP USA Environment & Infrastructure Inc. No other aspects of our legal entity or capabilities have changed for this report, including our Federal Tax ID which remains 91-1641772. Correspondence for this report should continue to be addressed to the undersigned.

2022 DATA VALIDATION REPORT

CCR RULE COMPLIANCE GROUNDWATER MONITORING DATA – APS FOUR CORNERS POWER PLANT
ARIZONA PUBLIC SERVICE FOUR CORNERS POWER PLANT
FRUITLAND, NEW MEXICO

ARIZONA PUBLIC SERVICE COMPANY

PROJECT NO.: 14-2022-2006
DATE: JANUARY 31, 2023

WSP USA ENVIRONMENT & INFRASTRUCTURE INC.
4600 EAST WASHINGTON STREET, SUITE 600
PHOENIX, ARIZONA 85034-1917

T: +1 602-733-6000
WSP.COM

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ACRONYMS AND ABBREVIATIONS

%	percent
APS	Arizona Public Service Company
BTVs	background threshold value(s)
CCR	coal combustion residuals
CLP	Contract Laboratory Program
COC	chain of custody
EPA	United States Environmental Protection Agency
GWPS(s)	Groundwater Protection Standard(s)
LCS	laboratory control sample
LCSD	laboratory control sample
MCL	maximum contaminant level
mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
QC	quality control
RL	reporting limit
RPD	relative percent difference
SAP	sampling and analysis plan
SDG	sample delivery group
SM	Standard Method
TDS	total dissolved solids
Wood	Wood Environment & Infrastructure Solutions, Inc.
WSP	WSP USA Environment & Infrastructure Inc

1 INTRODUCTION

Arizona Public Service (APS) collected groundwater Detection and Assessment Monitoring samples to support Coal Combustion Residuals (CCR) Rule Compliance during the 2022 calendar year (the reporting period) at the APS Four Corners Power Plant, located near Fruitland, New Mexico. This report presents the standard methods used to validate reporting period data and documents the results of the data validation process in summary tables and checklists generated as the samples were collected throughout the year.

2 DATA VALIDATION METHODOLOGY

WSP USA Environment & Infrastructure Inc (WSP) performed a United States Environmental Protection Agency (EPA) Stage 2A validation on samples collected by APS during the 2022 calendar year. This is equivalent to a Level I data evaluation as defined in the project sampling and analysis plan (SAP). The Stage 2A validation includes review of the quality control (QC) results in laboratory analytical reports and does not include review or validation of the raw analytical data. Data validation activities have been performed in general accordance with:

- EPA, 2004. SW 846 Test Methods for Evaluating Solid Wastes, Update IIIB.
- EPA, 2017. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review, EPA 540-R-2017-001.
- Wood, 2022. Groundwater Sampling and Analysis Program, Coal Combustion Residuals Rule Groundwater Monitoring System Compliance, Four Corners Power Plant, Fruitland, New Mexico.

The CLP guidelines were written specifically for the CLP, and have been modified for the purposes of data reviews conducted during the reporting period where they differ from method-specific QC requirements.

During each groundwater monitoring round conducted during the reporting period, the laboratory's certified analytical report and supporting documentation were reviewed to assess the following:

- Data package and electronic data deliverable completeness;
- Chain of custody (COC) compliance;
- Holding time compliance;
- Presence or absence of laboratory contamination as demonstrated by laboratory blanks;
- Accuracy and bias as demonstrated by recovery of laboratory control sample (LCS) and matrix spike (MS) samples;
- Analytical precision as relative percent difference (RPD) of analyte concentration between laboratory duplicates, LCS/LCS duplicates (LCSDs), or MSs/MS duplicates (MSDs);
- Insofar as possible, the degree of conformance to method requirements and good laboratory practices.

Appendix A presents data assessment checklists generated for each sample delivery group submitted to the analytical laboratory during the reporting period. The laboratory performing the analyses as well as the methods of analysis are presented in the individual checklists. Table 1 presents a comprehensive listing of reporting period samples and Table 2 summarizes field duplicate detections at concentrations greater than analytical reporting limits.

In general, it is important to recognize that no analytical data are guaranteed to be correct, even if all QC audits are passed. Strict QC serves to increase confidence in data, but any reported value may potentially contain error.

3 EXPLANATION OF DATA QUALITY INDICATORS

Summary explanations of the specific data quality indicators reviewed during data validation are presented below.

3.1 LABORATORY CONTROL SAMPLE RECOVERIES

LCSs are aliquots of analyte free matrices that are spiked with the analytes of interest for an analytical method, or a representative subset of those analytes. The spiked matrix is then processed through the same analytical procedures as the samples it accompanies. LCS recovery is an indication of a laboratory's ability to successfully perform an analytical method in an interference free matrix.

3.2 MATRIX SPIKE RECOVERIES

MSs and MSDs are prepared by adding known amounts of the analytes of interest for an analytical method, or a representative subset of those analytes, to an aliquot of sample. The spiked sample is then processed through the same extraction, concentration, cleanup, and analytical procedures as the unspiked samples in an analytical batch.

MS recovery and precision are an indication of a laboratory's ability to successfully recover an analyte in the matrix of a specific sample or closely related sample matrices. It is important not to apply MS results for any specific sample to other samples without understanding how the sample matrices are related.

3.3 BLANK CONCENTRATIONS

Blank samples are aliquots of analyte free matrix that are used as negative controls to verify that the sample collection, storage, preparation, and analysis system does not produce false positive results.

Laboratory blanks are processed by the laboratory using exactly the same procedures as the field samples. Target analytes should not be found in laboratory blanks.

When target analytes are detected in blanks, analyte concentrations in associated samples less than five times the concentration detected in the blank will be U qualified as being not detected.

3.4 LABORATORY DUPLICATES

Laboratory duplicate analysis verifies acceptable method precision by the laboratory at the time of preparation and analysis and/or sampling precision at the time of collection.

4 DEFINITIONS OF DATA VALIDATION QUALIFIERS

The following qualifiers may be added to the data during data validation:

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

R The data are usable. The sample results are rejected due to serious deficiencies in meeting QC

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to measure the analyte accurately and precisely in the sample.

5 CHAIN OF CUSTODY AND SAMPLE RECEIPT CONDITION DOCUMENTATION

Unless otherwise noted in the Data Assessment Checklists included in Appendix A, the samples were received at the laboratories under proper COC, intact, properly preserved, and at temperatures less than the SAP-specified maximum of 6 degrees Celsius.

6 SPECIFIC DATA VALIDATION FINDINGS

Results for groundwater monitoring samples collected in 2022 may be considered usable with the limitations and exceptions summarized in Table 3.

The following sections identify requirements used in data assessment. Laboratory-specified limits are noted on the Data Assessment Checklists included in Appendix A.

6.1 METALS BY EPA METHODS 200.7, 200.8, AND 245.1

6.1.1 HOLDING TIMES

Samples must be analyzed for metals within the SAP-specified holding time of 28 days for mercury and 180 days for additional metals.

6.1.2 LABORATORY BLANKS

Target analytes must not be detected in the laboratory blanks associated with the analysis of site samples.

6.1.3 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS and LCSD recoveries must be within the laboratory-specified limits and RPDs between the LCS and LCSD results must be less than the laboratory-specified maximum.

6.1.4 MATRIX SPIKES/MATRIX SPIKE DUPLICATES

Laboratories performed MS and MSD analysis on the project samples specified in the Data Assessment Checklists included in Appendix A. MS/MSD recoveries must be within laboratory-specified limits and RPDs between MS and MSD results must be less than the laboratory-specified maximum.

6.1.5 ANALYTICAL SENSITIVITY

Reporting levels (RLs) for antimony, arsenic, barium, beryllium, cadmium, chromium, mercury, selenium, and thallium must be sufficiently low to meet the National Primary Drinking Water Regulation Maximum Contamination Limits (MCLs). RLs or cobalt, lead, lithium, and molybdenum must be sufficiently low to meet alternative Groundwater Protection Standards (GWPSs).

Boron and calcium are not EPA-regulated analytes in groundwater, and it is not possible to evaluate the RLs for these analytes against the National Primary Drinking Water Regulation MCLs.

6.2 ANIONS BY EPA METHOD 300.0

6.2.1 HOLDING TIMES

Samples must be analyzed for anions within the SAP-specified holding time of 28 days.

6.2.2 LABORATORY BLANKS

Fluoride, chloride, and sulfate must not be detected in the laboratory blanks associated with the analysis of these samples.

6.2.3 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS and LCSD recoveries must be within the laboratory-specified limits and RPDs between the LCS and LCSD results must be less than the laboratory-specified maximum values.

6.2.4 MATRIX SPIKES/MATRIX SPIKE DUPLICATES

Laboratories performed MS and MSD analysis on the project samples specified in the Data Assessment Checklists included in Appendix A. Recoveries must be within the laboratory-specified limits. RPDs between MS and MSD results must be less than the laboratory-specified limit.

6.2.5 LABORATORY DUPLICATES

Laboratories performed duplicate analysis on the project samples specified in the Data Assessment Checklists included in Appendix A. The RPDs between duplicate results must be less than the laboratory-specified limit.

6.2.6 ANALYTICAL SENSITIVITY

Fluoride RLs must be sufficiently low to meet the 4 milligram per liter (mg/L) MCL. Chloride and sulfate are not EPA-regulated analytes in groundwater, and it is not possible to evaluate the RLs for these analytes against the Primary Drinking Water Regulation MCLs.

There are applicable CCR Groundwater Monitoring Program Background Threshold Values (BTVs) for fluoride, chloride, and sulfate for the site. Analytical sensitivity must also be evaluated for these site-specific comparison criteria.

6.3 TOTAL DISSOLVED SOLIDS BY SM 2540C

6.3.1 HOLDING TIMES

All samples must be analyzed for TDS within the SAP-specified holding time of 7 days.

6.3.2 LABORATORY BLANKS

TDS must not be detected in the laboratory blanks at concentrations above the reporting limit.

6.3.3 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS and LCSD recoveries must be within the laboratory-specified limits and RPDs between the LCS and LCSD results must be less than the laboratory-specified maximum.

6.3.4 LABORATORY DUPLICATES

Laboratories performed duplicate analysis for TDS on the project samples specified in the Data Assessment Checklists included in Appendix A. RPDs between primary sample and laboratory duplicate results must be less than the laboratory-specified limit.

6.4 PH BY SM 4500B

6.4.1 HOLDING TIMES

All samples must be analyzed for pH within 15 minutes of sample collection.

6.4.2 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries must be within the laboratory-specified limits.

6.4.3 LABORATORY DUPLICATES

Laboratories performed duplicate analysis for pH on the project samples specified in the Data Assessment Checklists included in Appendix A. RPDs between primary sample and laboratory duplicate results must be less than the laboratory-specified limit.

6.5 GENERAL CHEMISTRY BY SM 2320B

6.5.1 HOLDING TIMES

Samples must be analyzed for alkalinity within 14 days of sample collection.

6.5.2 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries must be within the laboratory-specified limits.

6.5.3 LABORATORY DUPLICATES

Laboratories performed duplicate analysis on the project samples specified in the Data Assessment Checklists included in Appendix A. RPDs between primary sample and laboratory duplicate results must be less than the laboratory-specified limit.

6.6 RADIUM BY EPA METHODS 903.0 AND 904.0

6.6.1 HOLDING TIME

All samples must be analyzed for radium within the EPA-recommended holding time of 6 months.

6.6.2 LABORATORY BLANKS

Radium must not be detected in the laboratory blanks at concentrations above the reporting limit.

6.6.3 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS and LCSD recoveries must be within laboratory-specified limits.

6.6.4 CARRIER ACCURACY

Carrier recoveries must be within the laboratory-specified limits.

6.6.5 ANALYTICAL SENSITIVITY

Total radium RLs must be sufficiently low to meet the MCL of 5 picocuries per liter. Pending development of applicable CCR Groundwater Monitoring Program BTVs and/or GPSs for the site, analytical sensitivity must also be evaluated for these site-specific comparison criteria.

7 FIELD DUPLICATES

APS collected field duplicate samples of the specified field original samples as specified in Table 1. Target analyte detections are summarized in Table 2. Precision values must be less than or equal-to the SAP-specified maximum of 20 percent (%), or the differences between the detected concentrations must be less than or equal-to the RLs.

8 SUMMARY AND CONCLUSIONS

Data are usable with the addition of qualifiers as presented in Table 3. The amount of qualified data was reduced by approximately half when compared to 2021 data validation findings. Similarly, to past sampling events, the primary data qualifier reason code for 2022 qualified data was holding time exceedances for pH by SM 4500B.

9 LIMITATIONS

This report was prepared exclusively for Arizona Public Service by WSP USA Environment & Infrastructure, Inc. The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in WSP services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This data validation report is intended to be used by Arizona Public Service for the Four Corners Power Plant site only, subject to the terms and conditions of its contract with WSP. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

BIBLIOGRAPHY

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— EPA, 2004. SW 846 Test Methods for Evaluating Solid Wastes, Update IIIB.

— Wood, 2022. Groundwater Sampling and Analysis Program, Coal Combustion Residuals Rule Groundwater Monitoring System Compliance, Four Corners Power Plant, Fruitland, New Mexico.

TABLES

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	ACZ Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	Multiunit 1	2/1/2022 15:55	FC-CCR-DMX03-0222	550-178509-1	--	--	
Assessment	Multiunit 1	2/1/2022 16:42	FC-CCR-MW05-0222	550-178509-2	--	--	
Assessment	Multiunit 1	2/9/2022 15:28	FC-CCR-MW62-0222	550-178969-1	--	--	
Assessment	Multiunit 1	2/9/2022 16:08	FC-CCR-MW65-0222	550-178969-2	--	--	
Assessment	Multiunit 1	2/9/2022 13:12	FC-CCR-SW1-0222	550-178969-3	--	--	
Assessment	Multiunit 1	2/9/2022 14:48	FC-CCR-SW2-0222	550-178969-4	--	--	
Assessment	Multiunit 1	2/9/2022 14:28	FC-CCR-SW3-0222	550-178969-5	--	--	
Assessment	Multiunit 1	2/11/2022 9:11	FC-CCR-FD02-0222	550-178969-6	--	--	Field Duplicate of FC-CCR-SW2-0222
Assessment	Multiunit 1	2/8/2022 11:20	FC-CCR-DMX04-0222	550-178970-1	--	--	
Assessment	Multiunit 1	2/8/2022 14:08	FC-CCR-DMX06-0222	550-178970-2	--	--	
Assessment	Multiunit 1	2/8/2022 12:43	FC-CCR-MW06-0222	550-178970-3	--	--	
Assessment	Multiunit 1	2/8/2022 14:50	FC-CCR-MW15-0222	550-178970-4	--	--	
Assessment	Multiunit 1	2/8/2022 10:40	FC-CCR-MW18-0222	550-178970-5	--	--	
Assessment	Multiunit 1	2/8/2022 12:05	FC-CCR-MW24-0222	550-178970-6	--	--	
Assessment	Multiunit 1	2/8/2022 11:08	FC-CCR-MW56-0222	550-178970-7	--	--	
Assessment	Multiunit 1	2/8/2022 16:10	FC-CCR-MW57-0222	550-178970-8	--	--	
Assessment	Multiunit 1	2/8/2022 13:30	FC-CCR-MW87-0222	550-178970-9	--	--	
Assessment	Multiunit 1	2/9/2022 10:25	FC-CCR-MW17R-0222	550-178970-10	--	--	
Assessment	Multiunit 1	2/9/2022 10:25	FC-CCR-FD01-0222	550-178970-11	--	--	Field Duplicate of FC-CCR-MW17R-0222
Assessment	Multiunit 1	2/9/2022 12:25	FC-CCR-MW23R-0222	550-178970-12	--	--	
Assessment	Multiunit 1	2/9/2022 11:45	FC-CCR-MW36R-0222	550-178970-13	--	--	
Assessment	Multiunit 1	2/9/2022 9:45	FC-CCR-MW38R-0222	550-178970-14	--	--	
Assessment	Multiunit 1	2/8/2022 15:28	FC-CCR-MW16-0222	550-178970-15	--	--	
Split	CWTP	5/24/2022 15:33	FC-CCR-FD10-0522	--	L73446-01	--	Interlaboratory split of FC-CCR-FD08-0522
Assessment	Multiunit 1	5/24/2022 11:55	FC-CCR-MW87-0522	550-184623-2	--	69255	
Assessment	Multiunit 1	5/24/2022 17:00	FC-CCR-FD04-0522	550-184623-3	--	69256	Field duplicate of FC-CCR-MW87-0522
Assessment	Multiunit 1	5/22/2022 13:08	FC-CCR-MW52-0522	550-184623-4	--	--	
Assessment	Multiunit 1	5/22/2022 14:02	FC-CCR-MW61-0522	550-184623-5	--	69254	
Assessment	Multiunit 1	5/22/2022 15:06	FC-CCR-MW75-0522	550-184623-6	--	69257	
Assessment	Multiunit 1	5/22/2022 13:08	FC-CCR-FD03-0522	550-184623-7	--	--	Field duplicate of FC-CCR-MW52-0522
Assessment	Multiunit 1	5/24/2022 9:28	FC-CCR-MW08-0522	550-184623-1	--	69252	
Assessment	Multiunit 1	5/24/2022 11:55	FC-CCR-MW87-0522	550-184623-2	--	--	

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	ACZ Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	URS	5/20/2022 16:48	FC-CCR-MW66-0522	550-184630-1	--	69227	
Assessment	URS	5/21/2022 11:45	FC-CCR-MW67-0522	550-184630-2	--	69228	
Assessment	URS	5/21/2022 10:45	FC-CCR-MW68-0522	550-184630-3	--	69229	
Assessment	URS	5/21/2022 9:48	FC-CCR-MW69-0522	550-184630-4	--	69230	
Assessment	URS	5/20/2022 11:30	FC-CCR-MW70-0522	550-184630-5	--	69231	
Assessment	URS	5/21/2022 15:26	FC-CCR-MW71-0522	550-184630-6	--	69232	
Assessment	URS	5/22/2022 9:38	FC-CCR-MW72-0522	550-184630-7	--	69233	
Assessment	URS	5/22/2022 10:32	FC-CCR-MW73-0522	550-184630-8	--	69234	
Assessment	URS	5/21/2022 13:55	FC-CCR-MW83-0522	550-184630-9	--	69235	
Assessment	URS	5/21/2022 12:36	FC-CCR-MW84-0522	550-184630-10	--	69236	
Assessment	URS	5/21/2022 22:00	FC-CCR-FD01-0522	550-184630-11	--	69238	Field duplicate of FC-CCR-MW84-0522
Assessment	URS	5/20/2022 16:00	FC-CCR-MW86-0522	550-184630-12	--	69237	
Assessment	URS	5/20/2022 23:00	FC-CCR-FD02-0522	550-184630-13	--	69239	Field duplicate of FC-CCR-MW86-0522
Assessment	CWTP	5/20/2022 14:20	FC-CCR-MW62-0522	550-184633-1	--	69242	
Assessment	CWTP	5/20/2022 13:22	FC-CCR-MW63-0522	550-184633-2	--	69243	
Assessment	CWTP	5/20/2022 12:26	FC-CCR-MW64-0522	550-184633-3	--	69244	
Assessment	CWTP	5/20/2022 15:06	FC-CCR-MW65-0522	550-184633-4	--	69245	
Assessment	CWTP	5/24/2022 15:33	FC-CCR-SW1-0522	550-184633-5	--	69246	
Assessment	CWTP	5/24/2022 16:55	FC-CCR-SW2-0522	550-184633-6	--	69247	
Assessment	CWTP	5/24/2022 17:10	FC-CCR-SW3-0522	550-184633-7	--	69248	
Assessment	CWTP	5/24/2022 15:33	FC-CCR-FD08-0522	550-184633-8	--	69249	Field Duplicate of FC-CCR-SW1-0522
Assessment	Additional	5/23/2022 15:33	FC-CCR-DMX01-0522	550-184634-1	--	--	
Assessment	Multiunit 1	5/24/2022 13:26	FC-CCR-DMX06-0522	550-184634-2	--	69260	
Assessment	Additional	5/23/2022 10:05	FC-CCR-MW01-0522	550-184634-3	--	--	
Assessment	Additional	5/23/2022 10:50	FC-CCR-MW03-0522	550-184634-4	--	--	
Assessment	Multiunit 1	5/24/2022 14:16	FC-CCR-MW15-0522	550-184634-5	--	69262	
Assessment	Additional	5/23/2022 10:05	FC-CCR-FD05-0522	550-184634-6	--	--	Field Duplicate of FC-CCR-MW01-0522
Assessment	Additional	5/23/2022 16:30	FC-CCR-MW19-0522	550-184634-7	--	--	
Assessment	Additional	5/23/2022 11:35	FC-CCR-MW21-0522	550-184634-8	--	--	
Assessment	Additional	5/23/2022 13:10	FC-CCR-MW30-0522	550-184634-9	--	--	
Assessment	Additional	5/23/2022 11:35	FC-CCR-FD06-0522	550-184634-10	--	--	Field Duplicate of FC-CCR-MW21-0522
Assessment	Multiunit 1	5/24/2022 10:38	FC-CCR-MW57-0522	550-184634-11	--	69266	

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Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	ACZ Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	Multiunit 1	5/23/2022 9:20	FC-CCR-MW60-0522	550-184634-12	--	--	
Assessment	Additional	5/23/2022 11:32	FC-CCR-MW77S-0522	550-184634-13	--	--	
Assessment	Additional	5/23/2022 13:48	FC-CCR-MW78S-0522	550-184634-14	--	--	
Assessment	Additional	5/23/2022 15:00	FC-CCR-MW79S-0522	550-184634-15	--	--	
Assessment	Additional	5/23/2022 14:28	FC-CCR-MW81-0522	550-184634-16	--	--	
Assessment	Additional	5/23/2022 15:58	FC-CCR-MW82S-0522	550-184634-17	--	--	
Assessment	Additional	5/23/2022 11:32	FC-CCR-FD07-0522	550-184634-18	--	--	Field Duplicate of FC-CCR-MW77S-0522
Assessment	Multiunit 1	5/26/2022 13:30	FC-CCR-MW07-0522	550-184771-1	--	69251	
Assessment	Multiunit 1	5/26/2022 16:00	FC-CCR-EB01-0522	550-184771-2	--	69250	Equipment blank
Assessment	Multiunit 1	5/26/2022 11:13	FC-CCR-MW49A-0522	550-184771-3	--	69253	
Assessment	Multiunit 1	5/25/2022 11:25	FC-CCR-DMX03-0522	550-184772-1	--	69258	
Assessment	Multiunit 1	5/25/2022 13:50	FC-CCR-DMX04-0522	550-184772-2	--	69259	
Assessment	Multiunit 1	5/25/2022 12:15	FC-CCR-MW05-0522	550-184772-3	--	--	
Assessment	Multiunit 1	5/25/2022 15:30	FC-CCR-MW06-0522	550-184772-4	--	69261	
Assessment	Additional	5/26/2022 12:28	FC-CCR-MW11-0522	550-184772-5	--	--	
Assessment	Multiunit 1	5/26/2022 14:15	FC-CCR-MW16-0522	550-184772-6	--	69263	
Assessment	Multiunit 1	5/25/2022 16:25	FC-CCR-MW17R-0522	550-184772-7	--	69264	
Assessment	Multiunit 1	5/25/2022 13:05	FC-CCR-MW18-0522	550-184772-8	--	--	
Assessment	Multiunit 1	5/25/2022 9:58	FC-CCR-MW23R-0522	550-184772-9	--	--	
Assessment	Multiunit 1	5/25/2022 14:50	FC-CCR-MW24-0522	550-184772-10	--	--	
Assessment	Multiunit 1	5/25/2022 10:40	FC-CCR-MW36R-0522	550-184772-11	--	--	
Assessment	Multiunit 1	5/25/2022 17:25	FC-CCR-MW38R-0522	550-184772-12	--	69265	
Assessment	Additional	5/26/2022 8:00	FC-CCR-SUMP1-0522	550-184772-13	--	--	
Assessment	Additional	5/26/2022 8:11	FC-CCR-SUMP2-0522	550-184772-14	--	--	
Assessment	Additional	5/26/2022 8:30	FC-CCR-SUMP3-0522	550-184772-15	--	--	
Assessment	Additional	5/26/2022 8:38	FC-CCR-SUMP7-0522	550-184772-16	--	--	
Assessment	Additional	5/26/2022 8:48	FC-CCR-SUMP9-0522	550-184772-17	--	--	
Assessment	Additional	5/26/2022 9:00	FC-CCR-SUMP10-0522	550-184772-18	--	--	
Assessment	Additional	5/26/2022 9:08	FC-CCR-SUMP11-0522	550-184772-19	--	--	
Assessment	Additional	5/26/2022 9:18	FC-CCR-SUMP12-0522	550-184772-20	--	--	
Assessment	Additional	5/26/2022 9:28	FC-CCR-SUMP13-0522	550-184772-21	--	--	
Assessment	Additional	5/26/2022 9:38	FC-CCR-SUMP14-0522	550-184772-22	--	--	

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FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	ACZ Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	Additional	5/26/2022 9:45	FC-CCR-SUMP15-0522	550-184772-23	--	--	
Assessment	Additional	5/26/2022 9:50	FC-CCR-SUMP16-0522	550-184772-24	--	--	
Assessment	Additional	5/26/2022 10:00	FC-CCR-SUMP17-0522	550-184772-25	--	--	
Assessment	Additional	5/26/2022 10:10	FC-CCR-SUMP18-0522	550-184772-26	--	--	
Split	CWTP	5/20/2022 12:26	FC-CCR-SS01-0522	--	L73445-01	--	Interlaboratory split of FC-CCR-MW64-0522
Split	Multiunit 1	5/24/2022 15:33	FC-CCR-SS02-0522	--	L73445-02	--	Interlaboratory split of FC-CCR-SW1-0522
Split	URS	5/21/2022 9:48	FC-CCR-SS03-0522	--	L73445-03	--	Interlaboratory split of FC-CCR-MW69-0522
Split	URS	5/21/2022 15:26	FC-CCR-SS04-0522	--	L73445-04	--	Interlaboratory split of FC-CCR-MW71-0522
Split	URS	5/21/2022 13:55	FC-CCR-SS05-0522	--	L73445-05	--	Interlaboratory split of FC-CCR-MW83-0522
Split	Multiunit 1	5/24/2022 9:28	FC-CCR-SS06-0522	--	L73445-06	--	Interlaboratory split of FC-CCR-MW08-0522
Split	Multiunit 1	5/24/2022 11:55	FC-CCR-SS07-0522	--	L73445-07	--	Interlaboratory split of FC-CCR-MW87-0522
Split	Additional	5/23/2022 10:50	FC-CCR-SS08-0522	--	L73445-08	--	Interlaboratory split of FC-CCR-MW03-0522
Split	Multiunit 1	5/24/2022 10:38	FC-CCR-SS09-0522	--	L73445-09	--	Interlaboratory split of FC-CCR-MW57-0522
Split	Additional	5/26/2022 9:50	FC-CCR-SS10-0522	--	L73587-01	--	Interlaboratory split of FC-CCR-SUMP16-0522
Assessment	Multiunit 1	8/9/2022 12:58	FC-EW-01	550-188600-1	--	--	
Assessment	Multiunit 1	8/9/2022 13:30	FC-EW-05	550-188600-2	--	--	
Assessment	Multiunit 1	8/9/2022 13:47	FC-EW-06	550-188600-3	--	--	
Assessment	Multiunit 1	8/9/2022 12:20	FC-EW-12	550-188600-4	--	--	
Assessment	CWTP	8/14/2022 9:42	FC-CCR-MW63-0822	550-188833-1	--	--	
Assessment	CWTP	8/14/2022 9:06	FC-CCR-MW65-0822	550-188833-2	--	--	
Assessment	CWTP	8/14/2022 11:43	FC-CCR-MW71-0822	550-188833-3	--	--	
Assessment	CWTP	8/13/2022 15:47	FC-CCR-MW72-0822	550-188833-4	--	--	
Assessment	CWTP	8/13/2022 14:46	FC-CCR-MW73-0822	550-188833-5	--	--	
Assessment	CWTP	8/14/2022 12:11	FC-CCR-SW1-0822	550-188833-6	--	--	
Assessment	CWTP	8/14/2022 10:11	FC-CCR-SW2-0822	550-188833-7	--	--	
Assessment	CWTP	8/14/2022 10:36	FC-CCR-SW3-0822	550-188833-8	--	--	
Assessment	CWTP	8/14/2022 10:11	FC-CCR-FD02-0822	550-188833-9	--	--	Field Duplicate of FC-CCR-SW2-0822
Assessment	Multiunit 1	8/12/2022 9:44	FC-CCR-DMX03-0822	550-188834-1	--	--	
Assessment	Multiunit 1	8/12/2022 12:33	FC-CCR-DMX04-0822	550-188834-2	--	--	
Assessment	Multiunit 1	8/13/2022 9:28	FC-CCR-DMX06-0822	550-188834-3	--	--	
Assessment	Multiunit 1	8/12/2022 10:38	FC-CCR-MW05-0822	550-188834-4	--	--	
Assessment	Multiunit 1	8/13/2022 10:27	FC-CCR-MW15-0822	550-188834-5	--	--	

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FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	ACZ Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	Multiunit 1	8/13/2022 11:29	FC-CCR-MW16-0822	550-188834-6	--	--	
Assessment	Multiunit 1	8/11/2022 14:54	FC-CCR-MW17R-0822	550-188834-7	--	--	
Assessment	Multiunit 1	8/12/2022 11:42	FC-CCR-MW18-0822	550-188834-8	--	--	
Assessment	Multiunit 1	8/12/2022 8:39	FC-CCR-MW23R-0822	550-188834-9	--	--	
Assessment	Multiunit 1	8/12/2022 14:03	FC-CCR-MW24-0822	550-188834-10	--	--	
Assessment	Multiunit 1	8/11/2022 16:17	FC-CCR-MW36R-0822	550-188834-11	--	--	
Assessment	Multiunit 1	8/11/2022 14:03	FC-CCR-MW38R-0822	550-188834-12	--	--	
Assessment	Multiunit 1	8/11/2022 15:40	FC-CCR-MW56-0822	550-188834-13	--	--	
Assessment	Multiunit 1	8/11/2022 12:08	FC-CCR-MW57-0822	550-188834-14	--	--	
Assessment	Multiunit 1	8/11/2022 10:51	FC-CCR-MW87-0822	550-188834-15	--	--	
Assessment	Multiunit 1	8/11/2022 10:51	FC-CCR-FD01-0822	550-188834-16	--	--	Field duplicate of FC-CCR-MW87-0822
Assessment	Multiunit 1	9/1/2022 10:12	FC-CCR-MW06-0922	550-189796-1	--	--	
Assessment	CWTP	11/13/2022 11:57	FC-CCR-MW62-1122	550-193769-1	--	70559	
Assessment	CWTP	11/13/2022 12:28	FC-CCR-MW63-1122	550-193769-2	--	70560	
Assessment	CWTP	11/13/2022 13:33	FC-CCR-MW64-1122	550-193769-3	--	70561	
Assessment	CWTP	11/13/2022 9:37	FC-CCR-MW65-1122	550-193769-4	--	70562	
Assessment	URS	11/13/2022 11:12	FC-CCR-MW66-1122	550-193770-1	--	70547	
Assessment	URS	11/13/2022 16:10	FC-CCR-MW68-1122	550-193770-2	--	70548	
Assessment	URS	11/14/2022 8:52	FC-CCR-MW69-1122	550-193770-3	--	70549	
Assessment	URS	11/13/2022 8:32	FC-CCR-MW70-1122	550-193770-4	--	70550	
Assessment	URS	11/13/2022 15:20	FC-CCR-MW71-1122	550-193770-5	--	70551	
Assessment	URS	11/13/2022 14:33	FC-CCR-MW72-1122	550-193770-6	--	70552	
Assessment	URS	11/14/2022 11:53	FC-CCR-MW73-1122	550-193770-7	--	70553	
Assessment	URS	11/14/2022 10:38	FC-CCR-MW83-1122	550-193770-8	--	70554	
Assessment	URS	11/14/2022 9:42	FC-CCR-MW84-1122	550-193770-9	--	70555	
Assessment	URS	11/13/2022 10:22	FC-CCR-MW86-1122	550-193770-10	--	70556	
Assessment	URS	11/14/2022 14:20	FC-CCR-FD01-1122	550-193770-11	--	70557	Field duplicate of FC-CCR-MW84-1122
Assessment	URS	11/13/2022 13:11	FC-CCR-FD02-1122	550-193770-12	--	70558	Field duplicate of FC-CCR-MW86-1122
Assessment	Multiunit 1	11/10/2022 9:58	FC-CCR-MW52-1122	550-193772-1	--	--	
Assessment	Multiunit 1	11/11/2022 9:25	FC-CCR-MW61-1122	550-193772-2	--	70570	
Assessment	Multiunit 1	11/11/2022 10:33	FC-CCR-MW75-1122	550-193772-3	--	70571	
Assessment	Multiunit 1	11/10/2022 16:08	FC-CCR-FD03-1122	550-193772-4	--	--	Field duplicate of FC-CCR-MW52-1122

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	ACZ Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	Additional	11/11/2022 12:15	FC-CCR-DMX01-1122	550-193775-1	--	--	
Assessment	Additional	11/11/2022 15:00	FC-CCR-DMX03-1122	550-193775-2	--	70563	
Assessment	Multiunit 1	11/14/2022 13:37	FC-CCR-DMX04-1122	550-193775-3	--	70564	
Assessment	Additional	11/10/2022 11:25	FC-CCR-MW01-1122	550-193775-4	--	--	
Assessment	Additional	11/10/2022 11:56	FC-CCR-MW03-1122	550-193775-5	--	--	
Assessment	Multiunit 1	11/11/2022 15:48	FC-CCR-MW05-1122	550-193775-6	--	--	
Assessment	Multiunit 1	11/14/2022 15:17	FC-CCR-MW06-1122	550-193775-7	--	70565	
Assessment	Additional	11/11/2022 9:05	FC-CCR-FD04-1122	550-193775-8	--	--	Field duplicate of FC-CCR-DMX01-1122
Assessment	Multiunit 1	11/15/2022 12:47	FC-CCR-MW17R-1122	550-193775-9	--	70566	
Assessment	Multiunit 1	11/14/2022 12:58	FC-CCR-MW18-1122	550-193775-10	--	--	
Assessment	Additional	11/11/2022 11:32	FC-CCR-MW19-1122	550-193775-11	--	--	
Assessment	Additional	11/10/2022 12:33	FC-CCR-MW21-1122	550-193775-12	--	--	
Assessment	Multiunit 1	11/11/2022 13:33	FC-CCR-MW23R-1122	550-193775-13	--	--	
Assessment	Multiunit 1	11/14/2022 14:36	FC-CCR-MW24-1122	550-193775-14	--	--	
Assessment	Additional	11/10/2022 13:22	FC-CCR-MW30-1122	550-193775-15	--	--	
Assessment	Multiunit 1	11/11/2022 14:20	FC-CCR-MW36R-1122	550-193775-16	--	--	
Assessment	Multiunit 1	11/15/2022 13:33	FC-CCR-MW38R-1122	550-193775-17	--	70567	
Assessment	Multiunit 1	11/15/2022 11:58	FC-CCR-MW56-1122	550-193775-18	--	70568	
Assessment	Additional	11/11/2022 11:11	FC-CCR-FD05-1122	550-193775-19	--	--	Field duplicate of FC-CCR-MW19-1122
Assessment	Additional	11/10/2022 9:42	FC-CCR-FD06-1122	550-193775-20	--	--	Field duplicate of FC-CCR-MW30-1122
Assessment	Multiunit 1	11/15/2022 14:32	FC-CCR-MW57-1122	550-193775-21	--	70569	
Assessment	Multiunit 1	11/10/2022 10:48	FC-CCR-MW60-1122	550-193775-22	--	--	
Assessment	Additional	11/10/2022 14:00	FC-CCR-MW77S-1122	550-193775-23	--	--	
Assessment	Additional	11/10/2022 14:45	FC-CCR-MW78S-1122	550-193775-24	--	--	
Assessment	Additional	11/10/2022 16:02	FC-CCR-MW79S-1122	550-193775-25	--	--	
Assessment	Additional	11/10/2022 15:22	FC-CCR-MW81-1122	550-193775-26	--	--	
Assessment	Additional	11/10/2022 11:10	FC-CCR-FD07-1122	550-193775-27	--	--	Field duplicate of FC-CCR-MW81-1122
Assessment	Additional	11/15/2022 7:30	FC-CCR-SUMP1-1122	550-193775-28	--	--	
Assessment	Additional	11/15/2022 7:51	FC-CCR-SUMP2-1122	550-193775-29	--	--	
Assessment	Additional	11/15/2022 8:27	FC-CCR-SUMP3-1122	550-193775-30	--	--	
Assessment	Additional	11/15/2022 8:49	FC-CCR-SUMP7-1122	550-193775-31	--	--	
Assessment	Additional	11/15/2022 8:40	FC-CCR-SUMP8-1122	550-193775-32	--	--	

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	ACZ Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	Additional	11/15/2022 9:00	FC-CCR-SUMP9-1122	550-193775-33	--	--	
Assessment	Additional	11/15/2022 9:12	FC-CCR-SUMP10-1122	550-193775-34	--	--	
Assessment	Additional	11/15/2022 9:22	FC-CCR-SUMP11-1122	550-193775-35	--	--	
Assessment	Additional	11/15/2022 9:32	FC-CCR-SUMP12-1122	550-193775-36	--	--	
Assessment	Additional	11/15/2022 9:40	FC-CCR-SUMP13-1122	550-193775-37	--	--	
Assessment	Additional	11/15/2022 10:05	FC-CCR-SUMP15-1122	550-193775-38	--	--	
Assessment	Additional	11/15/2022 10:10	FC-CCR-SUMP16-1122	550-193775-39	--	--	
Assessment	Additional	11/15/2022 10:17	FC-CCR-SUMP17-1122	550-193775-40	--	--	
Assessment	Additional	11/15/2022 10:25	FC-CCR-SUMP18-1122	550-193775-41	--	--	
Assessment	Multiunit 1	11/15/2022 15:27	FC-CCR-MW87-1122	550-193835-1	--	70579	
Assessment	CWTP	11/16/2022 14:45	FC-CCR-SW1-1122	550-193838-1	--	70589	
Assessment	CWTP	11/16/2022 17:06	FC-CCR-SW2-1122	550-193838-2	--	70590	
Assessment	CWTP	11/16/2022 16:54	FC-CCR-SW3-1122	550-193838-3	--	70591	
Assessment	CWTP	11/16/2022 9:33	FC-CCR-FD08-1122	550-193838-4	--	70592	Field duplicate of FC-CCR-SW1-1122
Assessment	URS	11/16/2022 15:30	FC-CCR-MW67-1122	550-193840-1	--	70587	
Assessment	URS	11/16/2022 16:12	FC-CCR-MW85-1122	550-193840-2	--	70588	
Assessment	Multiunit 1	11/16/2022 14:12	FC-CCR-MW07-1122	550-193842-1	--	70584	
Assessment	Multiunit 1	11/16/2022 13:25	FC-CCR-MW08-1122	550-193842-2	--	70585	
Assessment	Multiunit 1	11/16/2022 9:03	FC-CCR-MW49A-1122	550-193842-3	--	70586	
Assessment	Multiunit 1	11/16/2022 10:48	FC-CCR-DMX06-1122	550-193845-1	--	70581	
Assessment	Additional	11/16/2022 10:08	FC-CCR-MW11-1122	550-193845-2	--	--	
Assessment	Multiunit 1	11/16/2022 11:35	FC-CCR-MW15-1122	550-193845-3	--	70582	
Assessment	Multiunit 1	11/16/2022 12:26	FC-CCR-MW16-1122	550-193845-4	--	70583	

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples FC-CCR-MW17R-0222 and FC-CCR-FD01-0222								
Chloride	400	mg/L	450		440		2.2%	
Fluoride	0.80	mg/L	0.48	J	0.50	J	4.1%	
Sulfate	400	mg/L	4,600		4,500		2.2%	
Beryllium	0.0010	mg/L	0.00052	J	0.0010	U	NC	± RL
Lithium	0.020	mg/L	0.47		0.47		0.0%	
Boron	0.050	mg/L	37		36		2.7%	
Calcium	2.0	mg/L	480		460		4.3%	
Magnesium	2.0	mg/L	300		280		6.9%	
Potassium	0.50	mg/L	20		20		0.0%	
Sodium	1.0	mg/L	1,100		1,000		9.5%	
Iron	0.10	mg/L	0.088	J	0.071	J	21%	± RL
Cobalt	0.00050	mg/L	0.061		0.061		0.0%	
Molybdenum	0.00050	mg/L	0.0012		0.0011		8.7%	
Alkalinity as CaCO3	6.0	mg/L	140		140		0.0%	
Bicarbonate Alkalinity as CaCO3	6.0	mg/L	140		140		0.0%	
Total Dissolved Solids	100	mg/L	6,400		6,300		1.6%	
pH	1.7	S.U.	7.5		7.5		0.0%	
Samples FC-CCR-SW2-0222 and FC-CCR-FD02-0222								
pH	1.7	S.U.	8.2		8.3		1.2%	
Samples FC-CCR-MW84-0522 and FC-CCR-FD01-0522								
Chloride	400	mg/L	940		950		1.1%	
Sulfate	400	mg/L	8,100		8,400		3.6%	
Lithium	0.020	mg/L	0.25		0.25		0.0%	
Boron	0.050	mg/L	77		81		5.1%	
Calcium	2.0	mg/L	480		490		2.1%	
Barium	0.0010	mg/L	0.015		0.016		6.5%	
Cadmium	0.00020	mg/L	0.00022		0.00020	U	NC	± RL
Cobalt	0.0010	mg/L	0.0068		0.0071		4.3%	
Molybdenum	0.0010	mg/L	0.0020		0.0020		0.0%	
Selenium	0.0010	mg/L	0.070		0.074		5.6%	
Thallium	0.00020	mg/L	0.0010		0.00035		96%	J-FD
Total Dissolved Solids	100	mg/L	13,000		13,000		0.0%	
pH	1.68	S.U.	7.35		7.47		1.6%	
Total Radium	1	pCi/L	0.5	± 0.2	0.9	± 0.2	57%	± RL
Radium 226	1	pCi/L	0.5	± 0.2	0.9	± 0.2	57%	± RL

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples FC-CCR-MW86-0522 and FC-CCR-FD02-0522								
Chloride	400	mg/L	1,200		1,200		0.0%	
Fluoride	0.80	mg/L	0.92		0.94		2.2%	
Sulfate	400	mg/L	8,600		8,400		2.4%	
Lithium	0.020	mg/L	0.34		0.33		3.0%	
Boron	0.10	mg/L	110		110		0.0%	
Calcium	2.0	mg/L	470		460		2.2%	
Barium	0.0010	mg/L	0.014		0.016		13%	
Cobalt	0.0010	mg/L	0.0052		0.0051		1.9%	
Molybdenum	0.0010	mg/L	0.0016		0.0016		0.0%	
Selenium	0.0010	mg/L	0.0029		0.0016		58%	J-FD
Thallium	0.00020	mg/L	0.00064		0.00062		3.2%	
Total Dissolved Solids	100	mg/L	14,000		14,000		0.0%	
pH	1.68	S.U.	7.45		7.31		1.9%	
Samples FC-CCR-MW52-0522 and FC-CCR-FD03-0522								
Boron	0.050	mg/L	16		15		6.5%	
Cobalt	0.00050	mg/L	0.088		0.092		4.4%	
Molybdenum	0.00050	mg/L	0.0047		0.0053		12%	
Samples FC-CCR-MW87-0522 and FC-CCR-FD04-0522								
Chloride	400	mg/L	3,300		3,200		3.1%	
Sulfate	1,000	mg/L	31,000		31,000		0.0%	
Lithium	0.020	mg/L	2.5		2.5		0.0%	
Boron	0.10	mg/L	1.5		1.5		0.0%	
Calcium	4.0	mg/L	450		470		4.3%	
Magnesium	10	mg/L	2,900		3,000		3.4%	
Potassium	1.0	mg/L	110		110		0.0%	
Sodium	10	mg/L	11,000		11,000		0.0%	
Iron	0.20	mg/L	0.31		0.33		6.3%	
Manganese	0.020	mg/L	0.47		0.47		0.0%	
Antimony	0.0010	mg/L	0.0014		0.0014		0.0%	
Arsenic	0.0010	mg/L	0.0017		0.0016		6.1%	
Barium	0.0010	mg/L	0.010		0.0097		3.0%	
Cadmium	0.00010	mg/L	0.00017		0.00013		27%	± RL
Chromium	0.0010	mg/L	0.0010	U	0.0011		NC	± RL
Cobalt	0.00050	mg/L	0.0077		0.0077		0.0%	
Molybdenum	0.00050	mg/L	0.053		0.055		3.7%	
Selenium	0.0010	mg/L	0.012		0.013		8.0%	
Alkalinity as CaCO3	6.0	mg/L	1,200		1,200		0.0%	
Bicarbonate Alkalinity as CaCO3	6.0	mg/L	1,200		1,200		0.0%	
Total Dissolved Solids	1,000	mg/L	36,000		30,000		18%	
pH	1.68	S.U.	7.75		7.77		0.3%	
Total Radium	1	pCi/L	3.9	± 0.4	3.9	± 0.4	0%	
Radium 228	1	pCi/L	3.1	± 0.4	3.3	± 0.4	6%	
Radium 226	1	pCi/L	0.8	± 0.2	0.6	± 0.2	29%	± RL

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples FC-CCR-MW01-0522 and FC-CCR-FD05-0522								
Boron	0.050	mg/L	55		54		1.8%	
Cobalt	0.00050	mg/L	0.056		0.057		1.8%	
Molybdenum	0.00050	mg/L	0.025		0.025		0.0%	
Samples FC-CCR-MW21-0522 and FC-CCR-FD06-0522								
Boron	0.100	mg/L	4.3		0.90		131%	J-FD
Cobalt	0.0020	mg/L	0.0055		0.0048		14%	
Molybdenum	0.0020	mg/L	0.0020	U	0.0024		NC	± RL
Samples FC-CCR-MW77S-0522 and FC-CCR-FD07-0522								
Boron	0.050	mg/L	9.9		9.9		0.0%	
Cobalt	0.0010	mg/L	0.0066		0.0066		0.0%	
Molybdenum	0.0010	mg/L	0.017		0.018		5.7%	
Samples FC-CCR-SW1-0522 and FC-CCR-FD08-0522								
Chloride	4.0	mg/L	46		46		0.0%	
Fluoride	0.80	mg/L	0.80		0.81		1.2%	
Sulfate	4.0	mg/L	390		390		0.0%	
Lithium	0.020	mg/L	0.086		0.087		1.2%	
Boron	0.050	mg/L	0.32		0.31		3.2%	
Calcium	2.0	mg/L	78		79		1.3%	
Arsenic	0.0010	mg/L	0.0015		0.0016		6.5%	
Barium	0.0010	mg/L	0.18		0.18		0.0%	
Molybdenum	0.0010	mg/L	0.0061		0.0061		0.0%	
Total Dissolved Solids	20	mg/L	770		750		2.6%	
pH	1.68	S.U.	8.28		8.31		0.4%	
Samples FC-CCR-MW84-0522MS and FC-CCR-MW84-0522SD								
Total Radium	1	pCi/L	0.6	± 0.2	1.6	± 0.4	91%	± RL
Radium 228	1	pCi/L	0.7	U	1.0	± 0.3	NC	± RL
Radium 226	1	pCi/L	0.6	± 0.2	0.6	± 0.2	0%	
Samples FC-CCR-SW2-0822 and FC-CCR-FD02-0822								
Boron	0.050	mg/L	0.31		0.33		6.3%	
pH	1.7	S.U.	8.5		8.5		0.0%	
Samples FC-CCR-MW87-0822 and FC-CCR-FD01-0822								
Chloride	400	mg/L	3,600		3,500		2.8%	
Fluoride	2.0	mg/L	2.2		2.0	U	NC	± RL
Sulfate	2,000	mg/L	36,000		35,000		2.8%	
Lithium	0.020	mg/L	2.7		2.7		0.0%	
Boron	0.50	mg/L	1.4		1.4		0.0%	
Calcium	20	mg/L	480		480		0.0%	
Magnesium	20	mg/L	3,300		3,200		3.1%	
Potassium	5.0	mg/L	83		83		0.0%	
Sodium	10	mg/L	11,000		12,000		8.7%	
Cobalt	0.0020	mg/L	0.0069		0.0065		6.0%	
Molybdenum	0.0020	mg/L	0.052		0.056		7.4%	
Alkalinity as CaCO3	6.0	mg/L	1,300		1,300		0.0%	
Bicarbonate Alkalinity as CaCO3	6.0	mg/L	1,300		1,300		0.0%	
Total Dissolved Solids	1,000	mg/L	54,000		56,000		3.6%	
pH	1.7	mg/L	7.3		7.4		1.4%	

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples FC-CCR-MW84-1122 and FC-CCR-FD01-1122								
Chloride	400	mg/L	870		890		2.3%	
Sulfate	400	mg/L	8,400		8,800		4.7%	
Lithium	0.020	mg/L	0.23		0.22		4.4%	
Boron	0.050	mg/L	67		68		1.5%	
Calcium	2.0	mg/L	490		500		2.0%	
Arsenic	0.00050	mg/L	0.0010		0.00084		17.4%	
Barium	0.00050	mg/L	0.018		0.017		5.7%	
Cadmium	0.00010	mg/L	0.00019		0.00019		0.0%	
Chromium	0.0010	mg/L	0.0010		0.0010	U	NC	± RL
Cobalt	0.00050	mg/L	0.0080		0.0074		7.8%	
Molybdenum	0.00050	mg/L	0.0012		0.0013		8.0%	
Selenium	0.00010	mg/L	0.12		0.12		0.0%	
Thallium	100	mg/L	0.00046		0.00044		4.4%	
Total Dissolved Solids	1.7	mg/L	15,000		15,000		0.0%	
pH	0.1	S.U.	7.1		7.2		1.4%	
Total Radium	1	pCi/L	4.5	± 0.5	2.6	± 0.2	54%	J-FD
Radium 228	1	pCi/L	2.0	± 0.4	0.6	U	NC	J/UJ-FD
Radium 226	1	pCi/L	2.5	± 0.3	2.6	± 0.2	4%	
Samples FC-CCR-MW86-1122 and FC-CCR-FD02-1122								
Chloride	400	mg/L	1,300		1,300		0.0%	
Fluoride	0.80	mg/L	0.80	U	1.0		NC	± RL
Sulfate	400	mg/L	8,600		9,000		4.5%	
Lithium	0.020	mg/L	0.29		0.30		3.4%	
Boron	0.10	mg/L	110		110		0.0%	
Calcium	2.0	mg/L	500		490		2.0%	
Arsenic	0.00050	mg/L	0.0012		0.0011		8.7%	
Barium	0.00050	mg/L	0.014		0.014		0.0%	
Cobalt	0.00050	mg/L	0.0053		0.0052		1.9%	
Molybdenum	0.00050	mg/L	0.0012		0.0012		0.0%	
Selenium	0.00050	mg/L	0.0026		0.0032		21%	J-FD
Thallium	0.00010	mg/L	0.00080		0.00082		2.5%	
Total Dissolved Solids	100	mg/L	15,000		15,000		0.0%	
pH	1.7	S.U.	7.3		7.2		1.4%	
Total Radium	1	pCi/L	0.4	± 0.2	1.9	± 0.2	130%	J-FD
Radium 226	1	pCi/L	0.4	± 0.2	1.9	± 0.2	130%	J-FD
Samples FC-CCR-MW52-1122 and FC-CCR-FD03-1122								
Boron	0.050	mg/L	9.3		11		16.7%	
Cobalt	0.00050	mg/L	0.13		0.13		0.0%	
Molybdenum	0.00050	mg/L	0.0030		0.0028		6.9%	
Samples FC-CCR-DMX01-1122 and FC-CCR-FD04-1122								
Boron	0.050	mg/L	80		83		3.7%	
Cobalt	0.00050	mg/L	0.00064		0.00052		20.7%	± RL
Molybdenum	0.00050	mg/L	0.0094		0.0085		10.1%	
Samples FC-CCR-MW19-1122 and FC-CCR-FD05-1122								
Boron	0.050	mg/L	1.9		1.9		0.0%	
Cobalt	0.00050	mg/L	0.0013		0.0013		0.0%	
Molybdenum	0.00050	mg/L	0.0033		0.0034		3.0%	

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples FC-CCR-MW30-1122 and FC-CCR-FD06-1122								
Boron	0.050	mg/L	22		22		0.0%	
Cobalt	0.00050	mg/L	0.0016		0.0015		6.5%	
Molybdenum	0.00050	mg/L	0.0056		0.0060		6.9%	
Samples FC-CCR-MW81-1122 and FC-CCR-FD07-1122								
Boron	0.050	mg/L	43		42		2.4%	
Cobalt	0.00050	mg/L	0.020		0.023		14.0%	
Molybdenum	0.00050	mg/L	0.0025		0.0025		0.0%	
Samples FC-CCR-SW1-1122 and FC-CCR-FD08-1122								
Chloride	10	mg/L	48		46		4.3%	
Sulfate	10	mg/L	470		430		8.9%	
Lithium	0.020	mg/L	0.0850		0.085		0.0%	
Boron	0.050	mg/L	0.35		0.34		2.9%	
Calcium	2.0	mg/L	89		87		2.3%	
Arsenic	0.00050	mg/L	0.0023		0.0021		9.1%	
Barium	0.0010	mg/L	0.22		0.21		4.7%	
Molybdenum	0.00050	mg/L	0.0053		0.0051		3.8%	
Mercury	0.00020	mg/L	0.00020	U	0.00021		NC	± RL
Total Dissolved Solids	20	mg/L	780		810		3.8%	
pH	1.7	S.U.	8.6		8.7		1.2%	
Total Radium	1	pCi/L	0.7	U	0.6	± 0.2	NC	± RL
Radium 228	1	pCi/L	0.7	U	0.7	U	NC	± RL
Radium 226	1	pCi/L	0.3	U	0.6	± 0.2	NC	± RL
Notes:								
mg/L = milligrams per liter								
± RL = The difference between analyte concentrations is less than or equal to the reporting limit, indicating acceptable sampling and analytical precision.								
FD = Imprecision between primary and field duplicate results.								
NC = not calculable								
RPD = relative percent difference								
S.U. = standard pH units								

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
FC-CCR-DMX03-0222	178509	pH	7.6	S.U.	J	HT
FC-CCR-MW05-0222	178509	pH	7.5	S.U.	J	HT
FC-CCR-SW1-0222	178969	pH	8.5	S.U.	J	HT
FC-CCR-SW2-0222	178969	pH	8.2	S.U.	J	HT
FC-CCR-SW3-0222	178969	pH	8.5	S.U.	J	HT
FC-CCR-FD02-0222	178969	pH	8.3	S.U.	J	HT
FC-CCR-DMX04-0222	178970	pH	7.8	S.U.	J	HT
FC-CCR-MW17R-0222	178970	Beryllium	0.00052	mg/L	U	MB
FC-CCR-MW17R-0222	178970	Iron	0.088	mg/L	U	MB
FC-CCR-MW17R-0222	178970	pH	7.5	S.U.	J	HT
FC-CCR-FD01-0222	178970	Iron	0.071	mg/L	U	MB
FC-CCR-FD01-0222	178970	pH	7.5	S.U.	J	HT
FC-CCR-MW23R-0222	178970	pH	7.4	S.U.	J	HT
FC-CCR-MW36R-0222	178970	pH	7.6	S.U.	J	HT
FC-CCR-MW38R-0222	178970	pH	7.5	S.U.	J	HT
FC-CCR-MW16-0222	178970	pH	7.3	S.U.	J	HT
FC-CCR-DMX06-0222	178970	pH	7.5	S.U.	J	HT
FC-CCR-MW06-0222	178970	pH	7.5	S.U.	J	HT
FC-CCR-MW15-0222	178970	pH	7.3	S.U.	J	HT
FC-CCR-MW18-0222	178970	pH	7.3	S.U.	J	HT
FC-CCR-MW24-0222	178970	pH	7.6	S.U.	J	HT
FC-CCR-MW56-0222	178970	Iron	0.064	mg/L	U	MB
FC-CCR-MW56-0222	178970	pH	7.5	S.U.	J	HT
FC-CCR-MW57-0222	178970	pH	7.6	S.U.	J	HT
FC-CCR-MW87-0222	178970	pH	7.6	S.U.	J	HT
FC-CCR-MW17R-0222	178970	pH	7.5	S.U.	J	HT
FC-CCR-MW15-0222	178970	pH	7.3	S.U.	J	HT
FC-CCR-FD10-0522	L73446	pH	8.5	S.U.	J	HT
FC-CCR-FD10-0522	L73446	Antimony	0.00065	mg/L	J	DL
FC-CCR-FD10-0522	L73446	Lead	0.00024	mg/L	J	DL
FC-CCR-FD10-0522	L73446	Fluoride	0.888	mg/L	J	DL
FC-CCR-MW08-0522	184623	pH	7.65	S.U.	J	HT
FC-CCR-MW87-0522	184623	pH	7.75	S.U.	J	HT
FC-CCR-FD04-0522	184623	pH	7.77	S.U.	J	HT
FC-CCR-MW61-0522	184623	pH	8.46	S.U.	J	HT
FC-CCR-MW75-0522	184623	pH	8.20	S.U.	J	HT
FC-CCR-MW66-05222	184630	pH	7.45	S.U.	J	HT
FC-CCR-MW67-0522	184630	pH	7.37	S.U.	J	HT
FC-CCR-MW68-0522	184630	pH	7.47	S.U.	J	HT
FC-CCR-MW69-0522	184630	pH	7.57	S.U.	J	HT

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
FC-CCR-MW70-0522	184630	pH	7.51	S.U.	J	HT
FC-CCR-MW71-0522	184630	pH	7.58	S.U.	J	HT
FC-CCR-MW72-0522	184630	pH	7.50	S.U.	J	HT
FC-CCR-MW73-0522	184630	pH	7.47	S.U.	J	HT
FC-CCR-MW83-0522	184630	pH	7.71	S.U.	J	HT
FC-CCR-MW84-0522	184630	pH	7.35	S.U.	J	HT
FC-CCR-FD01-0522	184630	pH	7.47	S.U.	J	HT
FC-CCR-MW86-0522	184630	pH	7.45	S.U.	J	HT
FC-CCR-FD02-0522	184630	pH	7.31	S.U.	J	HT
FC-CCR-MW84-0522	184630	Thallium	0.0010	mg/L	J	FD
FC-CCR-FD01-0522	184630	Thallium	0.00035	mg/L	J	FD
FC-CCR-MW86-0522	184630	Selenium	0.0029	mg/L	J	FD
FC-CCR-FD02-0522	184630	Selenium	0.0016	mg/L	J	FD
FC-CCR-MW62-0522	184633	pH	7.45	S.U.	J	HT
FC-CCR-MW63-0522	184633	pH	7.40	S.U.	J	HT
FC-CCR-MW64-0522	184633	pH	7.90	S.U.	J	HT
FC-CCR-MW65-0522	184633	pH	7.73	S.U.	J	HT
FC-CCR-SW1-0522	184633	pH	8.28	S.U.	J	HT
FC-CCR-SW2-0522	184633	pH	8.15	S.U.	J	HT
FC-CCR-SW3-0522	184633	pH	8.23	S.U.	J	HT
FC-CCR-FD08-0522	184633	pH	8.31	S.U.	J	HT
FC-CCR-FD06-0522	184634	Boron	0.90	mg/L	J	FD
FC-CCR-MW57-0522	184634	pH	7.77	S.U.	J	HT
FC-CCR-MW82S-0522	184634	pH	7.4	S.U.	J	HT
FC-CCR-DMX06-0522	184634	pH	7.47	S.U.	J	HT
FC-CCR-MW15-0522	184634	pH	7.5	S.U.	J	HT
FC-CCR-MW21-0522	184634	Boron	4.3	mg/L	J	FD
FC-CCR-MW15-0522	184634	pH	7.52	S.U.	J	HT
FC-CCR-MW07-0522	184771	pH	7.66	S.U.	J	HT
FC-CCR-MW49A-0522	184771	pH	7.53	S.U.	J	HT
FC-CCR-DMX03-0522	184772	Fluoride	0.80	mg/L	UJ	LM
FC-CCR-DMX03-0522	184772	Chloride	2,200	mg/L	J	HM
FC-CCR-DMX03-0522	184772	pH	7.53	S.U.	J	HT
FC-CCR-MW24-0522	184772	pH	7.68	S.U.	J	HT
FC-CCR-MW36R-0522	184772	pH	7.5	S.U.	J	HT
FC-CCR-MW38R-0522	184772	pH	7.45	S.U.	J	HT
FC-CCR-SUMP2-0522	184772	Chloride	920	mg/L	J	HM
FC-CCR-DMX04-0522	184772	pH	7.76	S.U.	J	HT
FC-CCR-MW05-0522	184772	pH	7.49	S.U.	J	HT
FC-CCR-MW06-0522	184772	pH	7.59	S.U.	J	HT
FC-CCR-MW11-0522	184772	pH	7.12	S.U.	J	HT
FC-CCR-MW16-0522	184772	pH	7.48	S.U.	J	HT
FC-CCR-MW17R-0522	184772	pH	7.47	S.U.	J	HT
FC-CCR-MW18-0522	184772	pH	7.38	S.U.	J	HT
FC-CCR-MW23R-0522	184772	pH	7.44	S.U.	J	HT
FC-CCR-MW16-0522	69263	Total Radium	3.4	pCi/L	J	EB

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
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Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
FC-CCR-MW16-0522	69263	Radium 228	2.4	pCi/L	J	EB
FC-CCR-MW07-0522	69251	Total Radium	0.7	pCi/L	J	EB
FC-CCR-MW07-0522	69251	Radium 228	0.7	pCi/L	J	EB
FC-CCR-MW49A-0522	69253	Total Radium	0.6	pCi/L	J	EB
FC-CCR-MW49A-0522	69253	Radium 228	0.6	pCi/L	J	EB
FC-CCR-SS01-0522	L73445	Arsenic	0.00022	mg/L	J	DL
FC-CCR-SS01-0522	L73445	Fluoride	0.874	mg/L	J	DL
FC-CCR-SS01-0522	L73445	pH	8.3	S.U.	J	HT
FC-CCR-SS02-0522	L73445	Antimony	0.00072	mg/L	J	DL
FC-CCR-SS02-0522	L73445	Lead	0.00018	mg/L	J	DL
FC-CCR-SS02-0522	L73445	Fluoride	0.881	mg/L	J	DL
FC-CCR-SS02-0522	L73445	pH	8.5	S.U.	J	HT
FC-CCR-SS03-0522	L73445	Barium	0.00627	mg/L	J	DL
FC-CCR-SS03-0522	L73445	pH	7.8	S.U.	J	HT
FC-CCR-SS03-0522	L73445	Total Dissolved Solids	8,270	mg/L	J	HT
FC-CCR-SS04-0522	L73445	Barium	0.00887	mg/L	J	DL
FC-CCR-SS04-0522	L73445	Boron, total	0.78	mg/L	J	DL
FC-CCR-SS04-0522	L73445	Cobalt	0.00147	mg/L	J	DL
FC-CCR-SS04-0522	L73445	Lithium, total	0.367	mg/L	J	DL
FC-CCR-SS04-0522	L73445	Fluoride	0.28	mg/L	J	DL
FC-CCR-SS04-0522	L73445	pH	7.8	S.U.	J	HT
FC-CCR-SS05-0522	L73445	Barium	0.00917	mg/L	J	DL
FC-CCR-SS05-0522	L73445	Lithium, total	0.189	mg/L	J	DL
FC-CCR-SS05-0522	L73445	Selenium	0.00101	mg/L	J	DL
FC-CCR-SS05-0522	L73445	Fluoride	2.85	mg/L	J	DL
FC-CCR-SS05-0522	L73445	pH	8.1	S.U.	J	HT
FC-CCR-SS05-0522	L73445	Total Dissolved Solids	5,450	mg/L	J	HT
FC-CCR-SS06-0522	L73445	Barium	0.0102	mg/L	J	DL
FC-CCR-SS06-0522	L73445	Cobalt	0.00144	mg/L	J	DL
FC-CCR-SS06-0522	L73445	pH	7.9	S.U.	J	HT
FC-CCR-SS07-0522	L73445	Boron, total	2.5	mg/L	J	DL
FC-CCR-SS07-0522	L73445	Cobalt	0.00856	mg/L	J	DL
FC-CCR-SS07-0522	L73445	Selenium	0.0072	mg/L	J	DL
FC-CCR-SS07-0522	L73445	pH	8.0	S.U.	J	HT
FC-CCR-SS08-0522	L73445	Cobalt	0.00165	mg/L	J	DL
FC-CCR-SS09-0522	L73445	Barium	0.0164	mg/L	J	DL
FC-CCR-SS09-0522	L73445	Iron, total	0.891	mg/L	J	DL
FC-CCR-SS09-0522	L73445	Manganese, total	0.272	mg/L	J	DL
FC-CCR-SS09-0522	L73445	Fluoride	0.19	mg/L	J	DL
FC-CCR-SS09-0522	L73445	pH	8.0	S.U.	J	HT
FC-CCR-SS10-0522	L73587	Chloride	1,170	mg/L	J	HT
FC-EW-01	188600	pH	7.1	S.U.	J	HT
FC-EW-05	188600	pH	7.3	S.U.	J	HT
FC-EW-06	188600	pH	7.2	S.U.	J	HT
FC-EW-12	188600	pH	7.0	S.U.	J	HT
FC-CCR-MW63-0822	188833	pH	7.1	S.U.	J	HT
FC-CCR-MW71-0822	188833	pH	7.0	S.U.	J	HT
FC-CCR-MW72-0822	188833	pH	7.0	S.U.	J	HT

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
FC-CCR-MW73-0822	188833	pH	6.9	S.U.	J	HT
FC-CCR-SW1-0822	188833	pH	8.7	S.U.	J	HT
FC-CCR-SW2-0822	188833	pH	8.5	S.U.	J	HT
FC-CCR-SW3-0822	188833	pH	8.5	S.U.	J	HT
FC-CCR-FD02-0822	188833	pH	8.5	S.U.	J	HT
FC-CCR-DMX03-0822	188834	pH	7.2	S.U.	J	HT
FC-CCR-MW24-0822	188834	pH	7.4	S.U.	J	HT
FC-CCR-MW36R-0822	188834	pH	7.5	S.U.	J	HT
FC-CCR-MW38R-0822	188834	pH	7.4	S.U.	J	HT
FC-CCR-MW56-0822	188834	pH	7.3	S.U.	J	HT
FC-CCR-MW57-0822	188834	pH	7.4	S.U.	J	HT
FC-CCR-MW87-0822	188834	pH	7.3	S.U.	J	HT
FC-CCR-FD01-0822	188834	pH	7.4	S.U.	J	HT
FC-CCR-DMX04-0822	188834	pH	7.7	S.U.	J	HT
FC-CCR-DMX06-0822	188834	pH	7.2	S.U.	J	HT
FC-CCR-MW05-0822	188834	pH	7.0	S.U.	J	HT
FC-CCR-MW15-0822	188834	pH	7.0	S.U.	J	HT
FC-CCR-MW16-0822	188834	pH	7.1	S.U.	J	HT
FC-CCR-MW17R-0822	188834	pH	7.4	S.U.	J	HT
FC-CCR-MW18-0822	188834	pH	7.0	S.U.	J	HT
FC-CCR-MW23R-0822	188834	pH	7.1	S.U.	J	HT
FC-CCR-MW87-0822	188834	Boron	1.4	mg/L	J	HM
FC-CCR-MW87-0822	188834	Lithium	2.7	mg/L	J	HM
FC-CCR-MW06-0922	189796	pH	7.4	S.U.	J	HT
FC-CCR-MW62-1122	193769	pH	7.0	S.U.	J	HT
FC-CCR-MW63-1122	193769	pH	7.4	S.U.	J	HT
FC-CCR-MW64-1122	193769	pH	7.9	S.U.	J	HT
FC-CCR-MW65-1122	193769	pH	7.8	S.U.	J	HT
FC-CCR-MW66-1122	193770	pH	7.3	S.U.	J	HT
FC-CCR-MW68-1122	193770	pH	7.1	S.U.	J	HT
FC-CCR-MW69-1122	193770	pH	7.4	S.U.	J	HT
FC-CCR-MW70-1122	193770	pH	7.1	S.U.	J	HT
FC-CCR-MW71-1122	193770	pH	7.1	S.U.	J	HT
FC-CCR-MW72-1122	193770	pH	7.2	S.U.	J	HT
FC-CCR-MW73-1122	193770	pH	7.0	S.U.	J	HT
FC-CCR-MW83-1122	193770	pH	7.4	S.U.	J	HT
FC-CCR-MW84-1122	193770	pH	7.1	S.U.	J	HT
FC-CCR-MW86-1122	193770	pH	7.3	S.U.	J	HT
FC-CCR-MW86-1122	193770	Selenium	0.0026	mg/L	J	FD
FC-CCR-FD01-1122	193770	pH	7.2	S.U.	J	HT
FC-CCR-FD02-1122	193770	pH	7.2	S.U.	J	HT
FC-CCR-FD02-1122	193770	Selenium	0.0032	mg/L	J	FD
FC-CCR-MW61-1122	193772	pH	8.6	S.U.	J	HT
FC-CCR-MW75-1122	193772	pH	8.3	S.U.	J	HT

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
FC-CCR-MW87-1122	193835	Total Dissolved Solids	43,000	mg/L	J	HT
FC-CCR-MW87-1122	193835	pH	7.4	S.U.	J	HT
FC-CCR-SW1-1122	193838	pH	8.6	S.U.	J	HT
FC-CCR-SW2-1122	193838	pH	8.2	S.U.	J	HT
FC-CCR-SW3-1122	193838	pH	8.5	S.U.	J	HT
FC-CCR-FD08-1122	193838	pH	8.7	S.U.	J	HT
FC-CCR-MW67-1122	193840	pH	7.2	S.U.	J	HT
FC-CCR-MW85-1122	193840	pH	7.2	S.U.	J	HT
FC-CCR-MW07-1122	193842	pH	7.3	S.U.	J	HT
FC-CCR-MW08-1122	193842	pH	7.2	S.U.	J	HT
FC-CCR-MW49A-1122	193842	pH	7.3	S.U.	J	HT
FC-CCR-DMX03-1122	193775	pH	7.2	S.U.	J	HT
FC-CCR-DMX04-1122	193775	pH	7.6	S.U.	J	HT
FC-CCR-MW05-1122	193775	pH	7.0	S.U.	J	HT
FC-CCR-MW06-1122	193775	Manganese	0.071	mg/L	U	MB
FC-CCR-MW06-1122	193775	pH	7.3	S.U.	J	HT
FC-CCR-MW17R-1122	193775	pH	7.4	S.U.	J	HT
FC-CCR-MW18-1122	193775	pH	7.0	S.U.	J	HT
FC-CCR-MW23-1122	193775	Manganese	0.014	mg/L	U	MB
FC-CCR-MW23R-1122	193775	pH	7.2	S.U.	J	HT
FC-CCR-MW24-1122	193775	pH	7.4	S.U.	J	HT
FC-CCR-MW36R-1122	193775	Manganese	0.26	mg/L	U	MB
FC-CCR-MW36R-1122	193775	pH	7.4	S.U.	J	HT
FC-CCR-MW38R-1122	193775	pH	7.4	S.U.	J	HT
FC-CCR-MW56-1122	193775	pH	7.4	S.U.	J	HT
FC-CCR-MW571122	193775	Lithium	0.51	mg/L	J	LM
FC-CCR-MW571122	193775	Manganese	0.051	mg/L	U	MB
FC-CCR-MW571122	193775	pH	7.3	S.U.	J	HT
FC-CCR-SUMP1-1122	193775	TDS	8,400	mg/L	J	HT
FC-CCR-SUMP2-1122	193775	TDS	7,600	mg/L	J	HT
FC-CCR-SUMP3-1122	193775	TDS	20,000	mg/L	J	HT
FC-CCR-SUMP7-1122	193775	TDS	9,800	mg/L	J	HT
FC-CCR-SUMP8-1122	193775	TDS	17,000	mg/L	J	HT
FC-CCR-SUMP9-1122	193775	TDS	10,000	mg/L	J	HT
FC-CCR-SUMP10-1122	193775	TDS	7,300	mg/L	J	HT
FC-CCR-SUMP11-1122	193775	TDS	7,400	mg/L	J	HT
FC-CCR-SUMP12-1122	193775	TDS	8,900	mg/L	J	HT
FC-CCR-SUMP13-1122	193775	TDS	8,500	mg/L	J	HT
FC-CCR-SUMP15-1122	193775	TDS	13,000	mg/L	J	HT
FC-CCR-SUMP16-1122	193775	TDS	12,000	mg/L	J	HT

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2022 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
FC-CCR-SUMP17-1122	193775	TDS	34,000	mg/L	J	HT
FC-CCR-SUMP18-1122	193775	TDS	38,000	mg/L	J	HT
FC-CCR-DMX06-1122	193845	pH	7.1	S.U.	J	HT
FC-CCR-MW11-1122	193845	pH	6.9	S.U.	J	HT
FC-CCR-MW15-1122	193845	pH	7.1	S.U.	J	HT
FC-CCR-MW16-1122	193845	pH	7.2	S.U.	J	HT
FC-CCR-MW84-1122	70555	Radium 228	2.0	pCi/L	J	FD
FC-CCR-MW84-1122	70555	Total Radium	4.5	pCi/L	J	FD
FC-CCR-FD01-1122	70557	Radium 228	0.6	pCi/L	UJ	FD
FC-CCR-FD01-1122	70557	Total Radium	2.6	pCi/L	J	FD
FC-CCR-MW86-1122	70556	Radium 226	0.4	pCi/L	J	FD
FC-CCR-MW86-1122	70556	Total Radium	0.4	pCi/L	J	FD
FC-CCR-FD02-1122	70558	Radium 226	1.9	pCi/L	J	FD
FC-CCR-FD02-1122	70558	Total Radium	1.9	pCi/L	J	FD

Notes:
mg/L = milligrams per liter
S.U. = standard pH units
pCi/L = picoCuries per liter

Qualifier Definitions:
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the level of the adjusted quantitation limit.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurrate or imprecise

Reason Codes:
DL = The detected concentration is less than the reporting limit.
EB = The analyte was detected in the associated laboratory blank and the concentration detected in the sample was
FD = Imprecision between primary and field duplicate results
HT = The maximum recommended hold time was exceeded and the result should be considered

HM = High matrix spike recovery. Result may be biased high.
LM = Low matrix spike recovery. Result may be biased low.
MB = The analyte was detected in the associated laboratory blank and the concentration detected in the sample was less than five times the blank detection.

APPENDIX

A

DATA ASSESSMENT CHECKLISTS BY SAMPLE DELIVERY GROUP

Cholla CCR Data Review

Laboratory Name:	Eurofins Testing America		
Sample Delivery Group:	550-184623, 550-184630	**Review Date:**	June 20, 2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW08-0522	05/24/22 09:28	550-184623-1	
FC-CCR-MW87-0522	05/24/22 11:55	550-184623-2	
FC-CCR-FD04-0522	05/24/22 17:00	550-184623-3	Field duplicate of FC-CCR-MW87-0522
FC-CCR-MW52-0522	05/22/22 13:08	550-184623-4	
FC-CCR-MW61-0522	05/22/22 14:02	550-184623-5	
FC-CCR-MW75-0522	05/22/22 15:06	550-184623-6	
FC-CCR-FD03-0522	05/22/22 13:08	550-184623-7	Field duplicate of FC-CCR-MW52-0522
FC-CCR-MW66-0522	05/20/22 16:48	550-184630-1	
FC-CCR-MW67-0522	05/21/22 11:45	550-184630-2	
FC-CCR-MW68-0522	05/21/22 10:45	550-184630-3	
FC-CCR-MW69-0522	05/21/22 09:48	550-184630-4	
FC-CCR-MW70-0522	05/20/22 11:30	550-184630-5	
FC-CCR-MW71-0522	05/21/22 15:26	550-184630-6	
FC-CCR-MW72-0522	05/22/22 09:38	550-184630-7	
FC-CCR-MW73-0522	05/22/22 10:32	550-184630-8	
FC-CCR-MW83-0522	05/21/22 13:55	550-184630-9	
FC-CCR-MW84-0522	05/21/22 12:36	550-184630-10	
FC-CCR-FD01-0522	05/21/22 22:00	550-184630-11	Field duplicate of FC-CCR-MW84-0522
FC-CCR-MW86-0522	05/20/22 16:00	550-184630-12	
FC-CCR-FD02-0522	05/20/22 23:00	550-184630-13	Field duplicate of FC-CCR-MW86-0522

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA300.0
Beryllium, Lithium, Boron, Calcium, Magnesium, Potassium, Sodium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Alkalinity as CaCO3, Bicarbonate Alkalinity as CaCO3, Carbonate Alkalinity as CaCO3, Hydroxide Alkalinity as CaCO3, Alkalinity Phenolphthalein	General Chemistry	SM 2320B
Mercury	Metals (CVAA)	EPA 245.1
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-MW08-0522	pH	8 days	J/HT
FC-CCR-MW87-0522	pH	8 days	J/HT
FC-CCR-FD04-0522	pH	8 days	J/HT
FC-CCR-MW61-0522	pH	10 days	J/HT
FC-CCR-MW75-0522	pH	10 days	J/HT
FC-CCR-MW66-0522	pH	12 days	J/HT
FC-CCR-MW67-0522	pH	11 days	J/HT
FC-CCR-MW68-0522	pH	11 days	J/HT
FC-CCR-MW69-0522	pH	11 days	J/HT
FC-CCR-MW70-0522	pH	12 days	J/HT
FC-CCR-MW71-0522	pH	11 days	J/HT
FC-CCR-MW72-0522	pH	10 days	J/HT
FC-CCR-MW73-0522	pH	10 days	J/HT
FC-CCR-MW83-0522	pH	11 days	J/HT
FC-CCR-MW84-0522	pH	11 days	J/HT
FC-CCR-FD01-0522	pH	11 days	J/HT
FC-CCR-MW86-0522	pH	12 days	J/HT
FC-CCR-FD02-0522	pH	14 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes (No) N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits? (Yes) No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? (Yes) No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
FC-CCR-MW84-0522	Fluoride, Chloride, Sulfate, Beryllium, Boron, Calcium, Lithium, Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium, Mercury
FC-CCR-MW52-0522	Boron, Cobalt, Molybdenum

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes (No) N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
FC-CCR-MW84-0522	Boron	-247%, -255%	70-130%	NA4
FC-CCR-MW84-0522	Calcium	-61%, -44%	70-130%	NA4
FC-CCR-MW52-0522	Boron	-25%, 3%	70-130%	NA4

Note:

NA4 = The concentration detected in the unspiked native sample is greater than four times the spike concentration and it is not possible to assess data usability for this analyte in this sample based on MS recovery.

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
FC-CCR-MW84-0522	FC-CCR-FD01-0522
FC-CCR-MW86-0522	FC-CCR-FD02-0522
FC-CCR-MW87-0522	FC-CCR-FD03-0522
FC-CCR-MW52-0522	FC-CCR-FD04-0522

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
FC-CCR-MW84-0522	FC-CCR-FD01-0522	Thallium	96%	J/FD
FC-CCR-MW86-0522	FC-CCR-FD02-0522	Selenium	58%	J/FD

Note:

FD = Imprecision between primary and field duplicate results.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
FC-CCR-MW66-0522, FC-CCR-MW69-0522	Total Dissolved Solids
FC-CCR-MW68-0522, FC-CCR-FD02-0522	pH

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Testing America		
Sample Delivery Group:	550-184633, 550-184634	**Review Date:**	June 20, 2022
Validator's Name:	Rebecca Enzor	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW62-0522	5/20/2022 14:20	550-184633-1	
FC-CCR-MW63-0522	5/20/2022 13:22	550-184633-2	
FC-CCR-MW64-0522	5/20/2022 12:26	550-184633-3	
FC-CCR-MW65-0522	5/20/2022 15:06	550-184633-4	
FC-CCR-SW1-0522	5/24/2022 15:33	550-184633-5	
FC-CCR-SW2-0522	5/24/2022 16:55	550-184633-6	
FC-CCR-SW3-0522	5/24/2022 17:10	550-184633-7	
FC-CCR-FD08-0522	5/24/2022 15:33	550-184633-8	Field Duplicate of FC-CCR-SW1
FC-CCR-DMX01-0522	5/23/2022 15:33	550-184634-1	
FC-CCR-DMX06-0522	5/24/2022 13:26	550-184634-2	
FC-CCR-MW01-0522	5/23/2022 10:05	550-184634-3	
FC-CCR-MW03-0522	5/23/2022 10:50	550-184634-4	
FC-CCR-MW15-0522	5/24/2022 14:16	550-184634-5	
FC-CCR-FD05-0522	5/23/2022 10:05	550-184634-6	Field Duplicate of FC-CCR-MW01
FC-CCR-MW19-0522	5/23/2022 16:30	550-184634-7	
FC-CCR-MW21-0522	5/23/2022 11:35	550-184634-8	
FC-CCR-MW30-0522	5/23/2022 13:10	550-184634-9	
FC-CCR-FD06-0522	5/23/2022 11:35	550-184634-10	Field Duplicate of FC-CCR-MW21
FC-CCR-MW57-0522	5/24/2022 10:38	550-184634-11	
FC-CCR-MW60-0522	5/23/2022 9:20	550-184634-12	
FC-CCR-MW77S-0522	5/23/2022 11:32	550-184634-13	
FC-CCR-MW78S-0522	5/23/2022 13:48	550-184634-14	
FC-CCR-MW79S-0522	5/23/2022 15:00	550-184634-15	
FC-CCR-MW81-0522	5/23/2022 14:28	550-184634-16	
FC-CCR-MW82S-0522	5/23/2022 15:58	550-184634-17	
FC-CCR-FD07-0522	5/23/2022 11:32	550-184634-18	Field Duplicate of FC-CCR-MW77S

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	300.0
Beryllium, Lithium, Boron, Calcium, Iron, Magnesium, Manganese, Potassium, Sodium	Metals (ICP)	200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	200.8
Mercury	Mercury (CVAA)	245.1
Alkalinity as CaCO3, Bicarbonate Alkalinity as CaCO3, Carbonate Alkalinity as CaCO3, Hydroxide Alkalinity as CaCO3, Alkalinity Phenolphthalein	General Chemistry	2320B
Total Dissolved Solids	General Chemistry	2540C
pH	General Chemistry	4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

The container label for sample FC-CCR-MW77S-0522 listed a sample time of 12:32, while the COC listed a sample time of 11:32. Sample time logged as per Chain of Custody.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-MW62-0522	pH	13 days	J/HT
FC-CCR-MW63-0522	pH	13 days	J/HT
FC-CCR-MW64-0522	pH	14 days	J/HT
FC-CCR-MW65-0522	pH	13 days	J/HT
FC-CCR-SW1-0522	pH	9 days	J/HT
FC-CCR-SW2-0522	pH	9 days	J/HT
FC-CCR-SW3-0522	pH	9 days	J/HT
FC-CCR-FD08-0522	pH	9 days	J/HT
FC-CCR-DMX06-0522	pH	10 days	J/HT
FC-CCR-MW15-0522	pH	13 days	J/HT
FC-CCR-MW57-0522	pH	14 days	J/HT
FC-CCR-MW82S-0522	pH	14 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes (No) N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits? (Yes) No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? (Yes) No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
FC-CCR-MW64-0522	Fluoride (MSD only), Sulfate
FC-CCR-MW01-0522	Boron, Cobalt, Molybdenum
FC-CCR-MW21-0522	Cobalt, Molybdenum

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes (No) N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
FC-CCR-MW01-0522	Boron	-225%, -170%	70-130%	NA4

Note:

NA4 = The concentration detected in the unspiked native sample is greater than four times the spike concentration and it is not possible to assess data usability for this analyte in this sample based on MS recovery.

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
FC-CCR-SW1-0522	FC-CCR-FD08-0522
FC-CCR-MW01-0522	FC-CCR-FD05-0522
FC-CCR-MW21-0522	FC-CCR-FD06-0522
FC-CCR-MW77S-0522	FC-CCR-FD07-0522

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability
FC-CCR-MW21-0522	FC-CCR-FD06-0522	Boron	131%	J/FD

Note:

FD = Imprecision between primary and field duplicate results.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
FC-CCR-MW82S-0522	Total Dissolved Solids
FC-CCR-MW15-0522	pH

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes (circled) No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Testing America		
Sample Delivery Group:	550-184771, 550-184772	**Review Date:**	June 20, 2022
Validator's Name:	Rebecca Enzor	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW07-0522	5/26/2022 13:30	550-184771-1	
FC-CCR-EB01-0522	5/26/2022 16:00	550-184771-2	Equipment Blank
FC-CCR-MW49A-0522	5/26/2022 11:13	550-184771-3	
FC-CCR-DMX03-0522	5/25/2022 11:25	550-184772-1	
FC-CCR-DMX04-0522	5/25/2022 13:50	550-184772-2	
FC-CCR-MW05-0522	5/25/2022 12:15	550-184772-3	
FC-CCR-MW06-0522	5/25/2022 15:30	550-184772-4	
FC-CCR-MW11-0522	5/26/2022 12:28	550-184772-5	
FC-CCR-MW16-0522	5/26/2022 14:15	550-184772-6	
FC-CCR-MW17R-0522	5/25/2022 16:25	550-184772-7	
FC-CCR-MW18-0522	5/25/2022 13:05	550-184772-8	
FC-CCR-MW23R-0522	5/25/2022 9:58	550-184772-9	
FC-CCR-MW24-0522	5/25/2022 14:50	550-184772-10	
FC-CCR-MW36R-0522	5/25/2022 10:40	550-184772-11	
FC-CCR-MW38R-0522	5/25/2022 17:25	550-184772-12	
FC-CCR-SUMP1-0522	5/26/2022 8:00	550-184772-13	
FC-CCR-SUMP2-0522	5/26/2022 8:11	550-184772-14	
FC-CCR-SUMP3-0522	5/26/2022 8:30	550-184772-15	
FC-CCR-SUMP7-0522	5/26/2022 8:38	550-184772-16	
FC-CCR-SUMP9-0522	5/26/2022 8:48	550-184772-17	
FC-CCR-SUMP10-0522	5/26/2022 9:00	550-184772-18	
FC-CCR-SUMP11-0522	5/26/2022 9:08	550-184772-19	
FC-CCR-SUMP12-0522	5/26/2022 9:18	550-184772-20	
FC-CCR-SUMP13-0522	5/26/2022 9:28	550-184772-21	
FC-CCR-SUMP14-0522	5/26/2022 9:38	550-184772-22	
FC-CCR-SUMP15-0522	5/26/2022 9:45	550-184772-23	
FC-CCR-SUMP16-0522	5/26/2022 9:50	550-184772-24	
FC-CCR-SUMP17-0522	5/26/2022 10:00	550-184772-25	
FC-CCR-SUMP18-0522	5/26/2022 10:10	550-184772-26	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	300.0
Beryllium, Lithium, Boron, Calcium, Iron, Magnesium, Manganese, Potassium, Sodium	Metals (ICP)	200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	200.8
Mercury	Mercury (CVAA)	245.1
Alkalinity as CaCO3, Bicarbonate Alkalinity as CaCO3, Carbonate Alkalinity as CaCO3, Hydroxide Alkalinity as CaCO3, Alkalinity Phenolphthalein	General Chemistry	2320B
Total Dissolved Solids	General Chemistry	2540C
pH	General Chemistry	4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?
   Yes No N/A
2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?
   Yes No N/A
3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A
4. Samples analyzed for total dissolved solids within 7 days of sampling?
   Yes No N/A
5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-MW07-0522	pH	11 days	J/HT
FC-CCR-EB01-0522	pH	11 days	J/HT
FC-CCR-MW49A-0522	pH	12 days	J/HT
FC-CCR-DMX03-0522	pH	12 days	J/HT
FC-CCR-DMX04-0522	pH	9 days	J/HT
FC-CCR-MW05-0522	pH	9 days	J/HT
FC-CCR-MW06-0522	pH	8 days	J/HT
FC-CCR-MW11-0522	pH	8 days	J/HT
FC-CCR-MW16-0522	pH	8 days	J/HT
FC-CCR-MW17R-0522	pH	8 days	J/HT
FC-CCR-MW18-0522	pH	9 days	J/HT
FC-CCR-MW23R-0522	pH	9 days	J/HT
FC-CCR-MW24-0522	pH	9 days	J/HT
FC-CCR-MW36R-0522	pH	9 days	J/HT
FC-CCR-MW38R-0522	pH	8 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Boron	0.0980 mg/L		

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
FC-CCR-SUMP2-0522	Chloride
FC-CCR-DMX03-0522	Fluoride, Chloride, Sulfate
FC-CCR-SUMP10-0522	Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
FC-CCR-SUMP2-0522	Chloride	163%, 162%	80-120%	J/HM
FC-CCR-DMX03-0522	Fluoride	11%, 11%	80-120%	J/LM
FC-CCR-DMX03-0522	Chloride	153%, 130%	80-120%	J/HM
FC-CCR-DMX03-0522	Sulfate	77%, 11%	80-120%	NA4

Note:

HM = High matrix spike recovery. Result may be biased high.

LM = Low matrix spike recovery. Result may be biased low.

NA4 = The concentration detected in the unspiked native sample is greater than four times the spike concentration and it is not possible to assess data usability for this analyte in this sample based on MS recovery.

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

Note:

FD = Imprecision between primary and field duplicate results.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
FC-CCR-MW49A-0522	pH
FC-CCR-DMX04-0522	TDS, pH
FC-CCR-SUMP7-0522	TDS
FC-CCR-SUMP13-0522	TDS
FC-CCR-MW38R-0522	pH

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Other QC Issues — Yes (circled) No

If Yes, provide details.

According to the laboratory's noted beryllium recovery was high in the continuing calibration verification associated with the analysis of samples FC-CCR-DMX03-0522, FC-CCR-DMX04-0522, FC-CCR-MW05-0522, FC-CCR-MW06-0522, FC-CCR-MW07-0522, FC-CCR-MW16-0522, FC-CCR-MW17R-0522, FC-CCR-MW18-0522, FC-CCR-MW23R-0522, FC-CCR-MW24-0522, FC-CCR-MW36R-0522, FC-CCR-MW38R-0522, and FC-CCR-MW49A-0522. Beryllium was not detected in the associated samples and data usability is not adversely affected.

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes (circled) No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	ACZ Laboratories		
Sample Delivery Group:	L73445, L73587	**Review Date:**	June 30, 2022
Validator's Name:	Rebecca Enzor	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-SS01-0522	5/20/2022 12:26	L73445-01	
FC-CCR-SS02-0522	5/24/2022 15:33	L73445-02	
FC-CCR-SS03-0522	5/21/2022 9:48	L73445-03	
FC-CCR-SS04-0522	5/21/2022 15:26	L73445-04	
FC-CCR-SS05-0522	5/21/2022 13:55	L73445-05	
FC-CCR-SS06-0522	5/24/2022 9:28	L73445-06	
FC-CCR-SS07-0522	5/24/2022 11:55	L73445-07	
FC-CCR-SS08-0522	5/23/2022 10:50	L73445-08	
FC-CCR-SS09-0522	5/24/2022 10:38	L73445-09	
FC-CCR-SS10-0522	5/26/2022 9:50	L73587-01	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Fluoride	Anions	SM 4500F-C
Boron, Calcium, Iron, Lithium, Magnesium, Manganese	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Mercury	Mercury (CVAA)	EPA 245.1
Alkalinity as CaCO3, Bicarbonate Alkalinity as CaCO3, Carbonate Alkalinity as CaCO3, Hydroxide Alkalinity as CaCO3, Alkalinity Phenolphthalein	General Chemistry	SM 2320B
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes (circled) No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No (circled) N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes (circled) No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No (circled) N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No (circled) N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-SS01-0522	pH	11 days	J/HT
FC-CCR-SS02-0522	pH	7 days	J/HT
FC-CCR-SS03-0522	pH	10 days	J/HT
FC-CCR-SS04-0522	pH	10 days	J/HT
FC-CCR-SS05-0522	pH	10 days	J/HT
FC-CCR-SS06-0522	pH	7 days	J/HT
FC-CCR-SS07-0522	pH	7 days	J/HT
FC-CCR-SS09-0522	pH	7 days	J/HT
FC-CCR-SS03-0522	TDS	12 days	J/HT
FC-CCR-SS05-0522	TDS	12 days	J/HT
FC-CCR-SS10-0522	Chloride	34 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Selenium	0.00033 mg/L		N/A

Note:

N/A: Selenium was detected in the initial calibration blank associated with the analysis. The method blank contained no detection of Selenium, and data useability was not adversely affected.

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
FC-CCR-SS02-0522	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Fluoride, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Potassium, Selenium, Sodium, Thallium
FC-CCR-SS03-0522	Chloride, Fluoride, Sulfate
FC-CCR-SS10-0522	Chloride

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

Note:

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No (N/A)

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

(Yes) No N/A

If Yes:

Sample ID	Analysis
FC-CCR-SS02-0522	Alkalinity, Chloride, Fluoride, pH, TDS, Sulfate

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

(Yes) No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
FC-CCR-SS03-0522	Antimony	0.01
FC-CCR-SS03-0522	Thallium	0.0025
FC-CCR-SS03-0522	Fluoride (300.0)	25
FC-CCR-SS04-0522	Antimony	0.02
FC-CCR-SS04-0522	Thallium	0.005
FC-CCR-SS04-0522	Fluoride (300.0)	50
FC-CCR-SS05-0522	Antimony	0.01
FC-CCR-SS05-0522	Thallium	0.0025
FC-CCR-SS05-0522	Fluoride (300.0)	12.5
FC-CCR-SS06-0522	Antimony	0.02
FC-CCR-SS06-0522	Thallium	0.005
FC-CCR-SS06-0522	Fluoride (300.0)	50
FC-CCR-SS07-0522	Antimony	0.1
FC-CCR-SS07-0522	Arsenic	0.05
FC-CCR-SS07-0522	Beryllium	0.0125
FC-CCR-SS07-0522	Cadmium	0.0125
FC-CCR-SS07-0522	Lead	0.025

Sample ID	Analyte	Reporting Limit
FC-CCR-SS07-0522	Thallium	0.025
FC-CCR-SS07-0522	Fluoride (300.0)	125
FC-CCR-SS09-0522	Antimony	0.02
FC-CCR-SS09-0522	Thallium	0.005
FC-CCR-SS09-0522	Fluoride (300.0)	50

Cholla CCR Data Review

Laboratory Name:	ACZ Laboratories, Inc.		
Sample Delivery Group:	L73446	**Review Date:**	June 17, 2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-FD10-0522	5/24/22 15:33	L73446-01	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA300.0
Fluoride	Anions	SM 4500 F-C
Boron, Calcium, Lithium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Mercury	Metals	EPA245.1
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and/or radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-FD10-0522	pH	8 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Beryllium	0.000114		None
Selenium	0.00014		None

Note:

MB = The analyte was detected in the associated laboratory blank and the concentration detected in the sample is less than five times the concentration detected in the blank.

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
FC-CCR-FD10-0522	Fluoride

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
FC-CCR-FD10-0522	TDS

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APS Four Corners CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	--	**Review Date:**	24 June 2022
Validator's Name:	Rebecca Enzor	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW66-0522	5/20/2022 16:48	69227	
FC-CCR-MW67-0522	5/21/2022 11:45	69228	
FC-CCR-MW68-0522	5/21/2022 10:45	69229	
FC-CCR-MW69-0522	5/21/2022 9:48	69230	
FC-CCR-MW70-0522	5/20/2022 11:30	69231	
FC-CCR-MW71-0522	5/21/2022 15:26	69232	
FC-CCR-MW72-0522	5/22/2022 9:38	69233	
FC-CCR-MW73-0522	5/22/2022 10:32	69234	
FC-CCR-MW83-0522	5/21/2022 13:55	69235	
FC-CCR-MW84-0522	5/21/2022 12:36	69236	
FC-CCR-MW86-0522	5/20/2022 16:00	69237	
FC-CCR-FD01-0522	5/21/2022 22:00	69238	Field Duplicate of FC-CCR-MW84-0522
FC-CCR-FD02-0522	5/20/2022 23:00	69239	Field Duplicate of FC-CCR-MW86-0522
FC-CCR-MW84-0522MS	5/21/2022 12:36	69240	
FC-CCR-MW84-0522-SD	5/21/2022 12:36	69241	
FC-CCR-MW62-0522	5/20/2022 14:20	69242	
FC-CCR-MW63-0522	5/20/2022 13:22	69243	
FC-CCR-MW64-0522	5/20/2022 12:26	69244	
FC-CCR-MW65-0522	5/20/2022 15:06	69245	
FC-CCR-SW1-0522	5/24/2022 15:33	69246	
FC-CCR-SW2-0522	5/24/2022 16:55	69247	
FC-CCR-SW3-0522	5/24/2022 17:10	69248	
FC-CCR-FD08-0522	5/24/2022 15:33	69249	Field Duplicate of FC-CCR-SW1-0522
FC-CCR-EB01-0522	5/26/2022 16:00	69250	Equipment Blank
FC-CCR-DMX03-0522	5/25/2022 11:25	69258	
FC-CCR-DMX04-0522	5/25/2022 13:50	69259	
FC-CCR-DMX06-0522	5/24/2022 13:26	69260	
FC-CCR-MW06-0522	5/25/2022 15:30	69261	
FC-CCR-MW15-0522	5/24/2022 14:16	69262	
FC-CCR-MW16-0522	5/26/2022 14:15	69263	
FC-CCR-MW17R-0522	5/25/2022 16:25	69264	
FC-CCR-MW38R-0522	5/25/2022 17:25	69265	
FC-CCR-MW57-0522	5/24/2022 10:38	69266	
FC-CCR-MW07-0522	5/26/2022 13:30	69251	
FC-CCR-MW08-0522	5/24/2022 9:28	69252	
FC-CCR-MW49A-0522	5/26/2022 11:13	69253	
FC-CCR-MW61-0522	5/22/2022 14:02	69254	

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW87-0522	5/24/2022 11:55	69255	
FC-CCR-FD04-0522	5/24/2022 17:00	69256	Field Duplicate of FC-CCR-MW87-0522
FC-CCR-MW75-0522	5/22/2022 15:06	69257	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radiological	Gamma Ray HPGE

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A
2. Samples analyzed for TDS within 7 days of sampling? Yes No N/A
3. Samples analyzed for alkalinity within 14 days of sampling? Yes No N/A
4. Samples analyzed for chloride, fluoride, mercury, and sulfate within 28 days of sampling? Yes No N/A
5. Samples analyzed for other metals or radium within 180 days of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the equipment blank? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection (J-EB)
Radium 228	1.2 ± 0.6	FC-CCR-MW16-0522, FC-CCR-MW07-0522, FC-CCR-MW49A-0522
Total Radium	1.2 ± 0.6	FC-CCR-MW16-0522, FC-CCR-MW07-0522, FC-CCR-MW49A-0522

Note: Samples collected from the same unit on the same day as the blank are assessed against the equipment blank.

7. LCS recoveries and/or precision within laboratory-specified limits? Yes No N/A

If No:

Analyte	RPD or Recovery	Accuracy or Recovery Limits	Affected Samples

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
FC-CCR-MW84-0522	FC-CCR-FD01-0522
FC-CCR-MW86-0522	FC-CCR-FD02-0522
FC-CCR-SW1-0522	FC-CCR-FD08-0522
FC-CCR-MW87-0522	FC-CCR-FD04-0522
FC-CCR-MW84-0522MS	FC-CCR-MW84-0522SD

a. Is the RPD between primary and duplicate results ≤ 20% or is the difference between analyte concentrations ≤ the reporting limit?

Yes No N/A

Analyte	Reporting Limit	Primary Result	Duplicate Result	RPD	Notes

Notes:

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria and/or Alternative GWPS?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	SU
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APS Four Corners CCR Data Review

Laboratory Name:	Eurofins Phoenix and Denver		
Sample Delivery Group:	193769	**Review Date:**	12/12/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW62-1122	11/13/2022 11:57	550-193769-1	
FC-CCR-MW63-1122	11/13/2022 12:28	550-193769-2	
FC-CCR-MW64-1122	11/13/2022 13:33	550-193769-3	
FC-CCR-MW65-1122	11/13/2022 09:37	550-193769-4	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Mercury	Metals (CVAA)	EPA 245.1
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

The container label for sample FC-CCR-MW63-1122 lists a sample time of 12:48 whereas the COC lists a sample time of 12:28. Eurofins logged the sample per the COC.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-MW62-1122	pH	4 days	J/HT
FC-CCR-MW63-1122	pH	4 days	J/HT
FC-CCR-MW64-1122	pH	4 days	J/HT
FC-CCR-MW65-1122	pH	4 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
FC-CCR-MW64-1122	Sulfate

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

Note:

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

Did the laboratory perform duplicate analyses on project-specific samples?

Yes (No) N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No (N/A)

If No:

Sample ID	Analyte	Effect on Data Usability

10. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APS Four Corners CCR Data Review

Laboratory Name:	Eurofins Phoenix and Denver		
Sample Delivery Group:	193770	**Review Date:**	12/12/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW66-1122	11/13/2022 11:12	550-193770-1	
FC-CCR-MW68-1122	11/13/2022 16:10	550-193770-2	
FC-CCR-MW69-1122	11/14/2022 08:52	550-193770-3	
FC-CCR-MW70-1122	11/13/2022 08:32	550-193770-4	
FC-CCR-MW71-1122	11/13/2022 15:20	550-193770-5	
FC-CCR-MW72-1122	11/13/2022 14:33	550-193770-6	
FC-CCR-MW73-1122	11/14/2022 11:53	550-193770-7	
FC-CCR-MW83-1122	11/14/2022 10:38	550-193770-8	
FC-CCR-MW84-1122	11/14/2022 09:42	550-193770-9	
FC-CCR-MW86-1122	11/13/2022 10:22	550-193770-10	
FC-CCR-FD01-1122	11/14/2022 14:20	550-193770-11	Field duplicate of FC-CCR-MW84-1122
FC-CCR-FD02-1122	11/13/2022 13:11	550-193770-12	Field duplicate of FC-CCR-MW86-1122

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Mercury	Metals (CVAA)	EPA 245.1
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-MW66-1122	pH	4 days	J/HT
FC-CCR-MW68-1122	pH	3 days	J/HT
FC-CCR-MW69-1122	pH	4 days	J/HT
FC-CCR-MW70-1122	pH	4 days	J/HT
FC-CCR-MW71-1122	pH	3 days	J/HT
FC-CCR-MW72-1122	pH	3 days	J/HT
FC-CCR-MW73-1122	pH	4 days	J/HT
FC-CCR-MW83-1122	pH	3 days	J/HT
FC-CCR-MW84-1122	pH	3 days	J/HT
FC-CCR-MW86-1122	pH	8 days	J/HT
FC-CCR-FD01-1122	pH	7 days	J/HT
FC-CCR-FD02-1122	pH	8 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

Note:

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
FC-CCR-MW84-1122	FC-CCR-FD01-1122
FC-CCR-MW86-1122	FC-CCR-FD02-1122

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability
FC-CCR-MW86-1122	FC-CCR-FD02-1122	Selenium	21%	J/FD

Note:

FD = Imprecision between primary and field duplicate results.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
FC-CCR-MW72-1122	TDS
FC-CCR-FD01-1122	TDS

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APS Four Corners CCR Data Review

Laboratory Name:	Eurofins Phoenix and Denver		
Sample Delivery Group:	193772	**Review Date:**	12/12/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW52-1122	11/10/2022 09:58	550-193770-1	
FC-CCR-MW61-1122	11/11/2022 09:25	550-193770-2	
FC-CCR-MW75-1122	11/11/2022 10:33	550-193770-3	
FC-CCR-FD03-1122	11/10/2022 16:08	550-193770-4	Field duplicate of FC-CCR-MW52-1122

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium, Magnesium, Potassium, Sodium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Mercury	Metals (CVAA)	EPA 245.1
Alkalinity as CaCO3, Bicarbonate Alkalinity as CaCO3, Carbonate Alkalinity as CaCO3, Hydroxide Alkalinity as CaCO3, Phenolphthalein Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-MW61-1122	pH	10 days	J/HT
FC-CCR-MW75-1122	pH	10 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
FC-CCR-MW52-1122	Boron, Cobalt, Molybdenum

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
FC-CCRMW52-1122	Boron	56%, 54%	70-130%	NA4

Note:

NA4 = The concentration detected in the unspiked native sample is greater than four times the spike concentration and it is not possible to assess data usability for this analyte in this sample based on the matrix spike recovery.

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
FC-CCR-MW52-1122	FC-CCR-FD03-1122

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes (No) N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No (N/A)

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APS Four Corners CCR Data Review

Laboratory Name:	Eurofins Phoenix and Denver		
Sample Delivery Group:	193775	**Review Date:**	12/13/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-DMX01-1122	11/11/22 12:15	550-193775-1	
FC-CCR-DMX03-1122	11/11/22 15:00	550-193775-2	
FC-CCR-DMX04-1122	11/14/22 13:37	550-193775-3	
FC-CCR-MW01-1122	11/10/22 11:25	550-193775-4	
FC-CCR-MW03-1122	11/10/22 11:56	550-193775-5	
FC-CCR-MW05-1122	11/11/22 15:48	550-193775-6	
FC-CCR-MW06-1122	11/14/22 15:17	550-193775-7	
FC-CCR-FD04-1122	11/11/22 09:05	550-193775-8	Field duplicate of FC-CCR-DMX01-1122
FC-CCR-MW17R-1122	11/15/22 12:47	550-193775-9	
FC-CCR-MW18-1122	11/14/22 12:58	550-193775-10	
FC-CCR-MW19-1122	11/11/22 11:32	550-193775-11	
FC-CCR-MW21-1122	11/10/22 12:33	550-193775-12	
FC-CCR-MW23R-1122	11/11/22 13:33	550-193775-13	
FC-CCR-MW24-1122	11/14/22 14:36	550-193775-14	
FC-CCR-MW30-1122	11/10/22 13:22	550-193775-15	
FC-CCR-MW36R-1122	11/11/22 14:20	550-193775-16	
FC-CCR-MW38R-1122	11/15/22 13:33	550-193775-17	
FC-CCR-MW56-1122	11/15/22 11:58	550-193775-18	
FC-CCR-FD05-1122	11/11/22 11:11	550-193775-19	Field duplicate of FC-CCR-MW19-1122
FC-CCR-FD06-1122	11/10/22 09:42	550-193775-20	Field duplicate of FC-CCR-MW30-1122
FC-CCR-MW571122	11/15/22 14:32	550-193775-21	
FC-CCR-MW60-1122	11/10/22 10:48	550-193775-22	
FC-CCR-MW77S-1122	11/10/22 14:00	550-193775-23	
FC-CCR-MW78S-1122	11/10/22 14:45	550-193775-24	
FC-CCR-MW79S-1122	11/10/22 16:02	550-193775-25	
FC-CCR-MW81-1122	11/10/22 15:22	550-193775-26	
FC-CCR-FD07-1122	11/10/22 11:10	550-193775-27	Field duplicate of FC-CCR-MW81-1122
FC-CCR-SUMP1-1122	11/15/22 07:30	550-193775-28	
FC-CCR-SUMP2-1122	11/15/22 07:51	550-193775-29	
FC-CCR-SUMP3-1122	11/15/22 08:27	550-193775-30	
FC-CCR-SUMP7-1122	11/15/22 08:49	550-193775-31	
FC-CCR-SUMP8-1122	11/15/22 08:40	550-193775-32	
FC-CCR-SUMP9-1122	11/15/22 09:00	550-193775-33	
FC-CCR-SUMP10-1122	11/15/22 09:12	550-193775-34	
FC-CCR-SUMP11-1122	11/15/22 09:22	550-193775-35	
FC-CCR-SUMP12-1122	11/15/22 09:32	550-193775-36	
FC-CCR-SUMP13-1122	11/15/22 09:40	550-193775-37	

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-SUMP15-1122	11/15/22 10:05	550-193775-38	
FC-CCR-SUMP16-1122	11/15/22 10:10	550-193775-39	
FC-CCR-SUMP17-1122	11/15/22 10:17	550-193775-40	
FC-CCR-SUMP18-1122	11/15/22 10:25	550-193775-41	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Alkalinity as CaCO3, Bicarbonate Alkalinity as CaCO3, Carbonate Alkalinity as CaCO3, Hydroxide Alkalinity as CaCO3, Phenolphthalein Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

No sample volume was received for sample FC-CR-DMX06-1122. Sample was not included in login.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

APS Four Corners CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-DMX03-1122	pH	6 days	J/HT
FC-CCR-DMX04-1122	pH	3 days	J/HT
FC-CCR-MW05-1122	pH	6 days	J/HT
FC-CCR-MW06-1122	pH	3 days	J/HT
FC-CCR-MW17R-1122	pH	2 days	J/HT
FC-CCR-MW18-1122	pH	3 days	J/HT
FC-CCR-MW23R-1122	pH	6 days	J/HT
FC-CCR-MW24-1122	pH	3 days	J/HT
FC-CCR-MW36R-1122	pH	6 days	J/HT
FC-CCR-MW38R-1122	pH	2 days	J/HT
FC-CCR-MW56-1122	pH	2 days	J/HT
FC-CCR-MW571122	pH	2 days	J/HT
FC-CCR-SUMP1-1122	TDS	8 days	J/HT
FC-CCR-SUMP2-1122	TDS	8 days	J/HT
FC-CCR-SUMP3-1122	TDS	8 days	J/HT
FC-CCR-SUMP7-1122	TDS	8 days	J/HT
FC-CCR-SUMP8-1122	TDS	8 days	J/HT
FC-CCR-SUMP9-1122	TDS	8 days	J/HT
FC-CCR-SUMP10-1122	TDS	8 days	J/HT
FC-CCR-SUMP11-1122	TDS	8 days	J/HT
FC-CCR-SUMP12-1122	TDS	8 days	J/HT
FC-CCR-SUMP13-1122	TDS	8 days	J/HT
FC-CCR-SUMP15-1122	TDS	8 days	J/HT
FC-CCR-SUMP16-1122	TDS	8 days	J/HT
FC-CCR-SUMP17-1122	TDS	8 days	J/HT
FC-CCR-SUMP18-1122	TDS	8 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Manganese	0.0553 mg/L	FC-CCR-MW06-1122, FC-CCR-MW23R-1122, FC-CCR-MW36R-1122, and FC-CCR-MW571122	U/MB
Potassium	0.587 mg/L	None	None
Boron	According to the case narrative, boron was detected at a concentration greater than the reporting limit in a continuing calibration blank.	None according to the case narrative	None

Note:
MB = The analyte was detected in the associated laboratory blank and the concentration detected in the sample was less than five times the blank detection.

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
FC-CCR-DMX01-1122	Boron, Cobalt, Molybdenum
FC-CCR-MW30-1122	Boron, Cobalt, Molybdenum
FC-CCR-MW571122	Lithium
FC-CCR-MW81-1122	Boron, Cobalt, Molybdenum

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
FC-CCR-MW571122	Lithium	54%, 54%	70-130%	J/LM
FC-CCR-DMX01-1122	Boron	-435%, -769%	70-130%	NA4
FC-CCR-MW30-1122	Boron	-5%, -82%	70-130%	NA4
FC-CCR-MW81-1122	Boron	-37%, -119%	70-130%	NA4

Note:

LM = Low MS recovery

NA4 = The concentration detected in the unspiked native sample is greater than four times the spike concentration and it is not possible to assess data usability for this analyte in this sample based on the matrix spike recovery.

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
FC-CCR-DMX01-1122	FC-CCR-FD04-1122
FC-CCR-MW19-1122	FC-CCR-FD05-1122
FC-CCR-MW30-1122	FC-CCR-FD06-1122
FC-CCR-MW81-1122	FC-CCR-FD07-1122

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
FC-CCR-MW05-1122	Alkalinity
FC-CCR-MW24-1122	pH
FC-CCR-SUMP8-1122	TDS

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes (No)

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
FC-CCR-DMX04-1122 FC-CCR-MW17R-1122 FC-CCR-MW24-1122 FC-CCR-MW36R-1122 FC-CCR-MW38R-1122	Fluoride	2.0 mg/L
FC-CCR-MW05-1122 FC-CCR-MW06-1122 FC-CCR-MW18-1122 FC-CCR-MW23R-1122 FC-CCR-MW571122	Fluoride	4.0 mg/L
FC-CCR-MW56-1122	Fluoride	8.0 mg/L

APS Four Corners CCR Data Review

Laboratory Name:	Eurofins Phoenix and Denver		
Sample Delivery Group:	193835	**Review Date:**	12/12/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW87-1122	11/15/2022 15:27	550-193835-1	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Mercury	Metals (CVAA)	EPA 245.1
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-MW52-1122	TDS	13 days	J/HT
FC-CCR-MW52-1122	pH	6 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes (No) N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No (N/A)

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes (No)

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No (N/A)

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes (No) N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
FC-CCR-MW87-1122	Fluoride	8.0 mg/L

APS Four Corners CCR Data Review

Laboratory Name:	Eurofins Phoenix and Denver		
Sample Delivery Group:	193838	**Review Date:**	12/12/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-SW1-1122	11/16/22 14:45	550-193838-1	
FC-CCR-SW2-1122	11/16/22 17:06	550-193838-2	
FC-CCR-SW3-1122	11/16/22 16:54	550-193838-3	
FC-CCR-FD08-1122	11/16/22 09:33	550-193838-4	Field duplicate of FC-CCR-SW1-1122

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Mercury	Metals (CVAA)	EPA 245.1
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-SW1-1122	pH	5 days	J/HT
FC-CCR-SW2-1122	pH	5 days	J/HT
FC-CCR-SW3-1122	pH	5 days	J/HT
FC-CCR-FD08-1122	pH	5 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes (No) N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No (N/A)

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? (Yes) No

If Yes:

Parent Sample	Field Duplicate
FC-CCR-SW1-1122	FC-CCR-FD08-1122

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

(Yes) No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
FC-CCR-SW1-1122	pH

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
FC-CCR-SW1-1122 FC-CCR-SW2-1122 FC-CCR-SW3-1122 FC-CCR-FD08-1122	Fluoride	2.0 µg/L

APS Four Corners CCR Data Review

Laboratory Name:	Eurofins Phoenix and Denver		
Sample Delivery Group:	193840	**Review Date:**	12/12/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW67-1122	11/16/22 15:30	550-193840-1	
FC-CCR-MW85-1122	11/16/22 16:12	550-193840-2	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Mercury	Metals (CVAA)	EPA 245.1
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

The sample recorded on the COC as FC-CCR-MW85-112 was logged in as FC-CCR-MW85-1122.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-MW67-1122	pH	5 days	J/HT
FC-CCR-MW85-1122	pH	5 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
FC-CCR-MW67-1122	TDS

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
FC-CCR-MW85-1122	Fluoride	4.0 mg/L

APS Four Corners CCR Data Review

Laboratory Name:	Eurofins Phoenix and Denver		
Sample Delivery Group:	193842	**Review Date:**	12/13/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW07-1122	11/16/22 14:12	550-193842-1	
FC-CCR-MW08-1122	11/16/22 13:25	550-193842-2	
FC-CCR-MW49A-1122	11/16/22 09:03	550-193842-3	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Mercury	Metals (CVAA)	EPA 245.1
Alkalinity as CaCO3, Bicarbonate Alkalinity as CaCO3, Carbonate Alkalinity as CaCO3, Hydroxide Alkalinity as CaCO3, Alkalinity Phenolphthalein	General Chemistry	SM 2320B
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-MW07-1122	pH	5 days	J/HT
FC-CCR-MW08-1122	pH	5 days	J/HT
FC-CCR-MW49A-1122	pH	5 days	J/HT

Note:

HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
FC-CCR-MW07-1122	Fluoride	2.0 mg/L
FC-CCR-MW08-1122 FC-CCR-MW49A-1122	Fluoride	4.0 mg/L

APS Four Corners CCR Data Review

Laboratory Name:	Eurofins Phoenix and Denver		
Sample Delivery Group:	193845	**Review Date:**	12/13/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-DMX06-1122	11/16/22 10:48	550-193845-1	
FC-CCR-MW11-1122	11/16/22 10:08	550-193845-2	
FC-CCR-MW15-1122	11/16/22 11:35	550-193845-3	
FC-CCR-MW16-1122	11/16/22 12:26	550-193845-4	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals (ICP)	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals (ICP/MS)	EPA 200.8
Alkalinity as CaCO3, Bicarbonate Alkalinity as CaCO3, Carbonate Alkalinity as CaCO3, Hydroxide Alkalinity as CaCO3, Phenolphthalein Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
FC-CCR-DMX06-1122	pH	5 days	J/HT
FC-CCR-MW11-1122	pH	5 days	J/HT
FC-CCR-MW15-1122	pH	5 days	J/HT
FC-CCR-MW16-1122	pH	5 days	J/HT

Note:
HT = The maximum recommended hold time was exceeded, and the result should be considered an estimate value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

Note:

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes (No) N/A

If Yes:

Sample ID	Analysis

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No (N/A)

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
FC-CCR-DMX06-1122	Fluoride	4.0 mg/L
FC-CCR-MW11-1122	Fluoride	40 mg/L
FC-CCR-MW15-1122	Fluoride	2.0 mg/L
FC-CCR-MW16-1122	Fluoride	8.0 mg/L

APS Four Corners CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	70547-70558	**Review Date:**	12/13/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW66-1122	11/13/2022 11:12	70547	
FC-CCR-MW68-1122	11/13/2022 16:10	70548	
FC-CCR-MW69-1122	11/14/2022 8:52	70549	
FC-CCR-MW70-1122	11/13/2022 8:32	70550	
FC-CCR-MW71-1122	11/13/2022 15:20	70551	
FC-CCR-MW72-1122	11/13/2022 14:33	70552	
FC-CCR-MW73-1122	11/14/2022 11:53	70553	
FC-CCR-MW83-1122	11/14/2022 10:38	70554	
FC-CCR-MW84-1122	11/14/2022 9:42	70555	
FC-CCR-MW86-1122	11/13/2022 10:22	70556	
FC-CCR-FD01-1122	11/14/2022 14:20	70557	Field duplicate of FC-CCR-MW84-1122
FC-CCR-FD02-1122	11/13/2022 13:11	70558	Field duplicate of FC-CCR-MW86-1122

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

APS Four Corners CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

Note:

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No (N/A)

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No (N/A)

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

Note:

9. Field duplicate collected? (Yes) No

If Yes:

Parent Sample	Field Duplicate
FC-CCR-MW84-1122	FC-CCR-FD01-1122
FC-CCR-MW86-1122	FC-CCR-FD02-1122

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes (No) N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability
FC-CCR-MW84-1122	FC-CCR-FD01-1122	Radium 228	1.4 pCi/L	J/UJ-FD
FC-CCR-MW84-1122	FC-CCR-FD01-1122	Total Radium	54%	J-FD
FC-CCR-MW86-1122	FC-CCR-FD02-1122	Radium 226	130%	J-FD
FC-CCR-MW86-1122	FC-CCR-FD02-1122	Total Radium	130%	J-FD

Note:

FD = Imprecision between primary and field duplicate results.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APS Four Corners CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	70559-70569	**Review Date:**	12/12/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW62-1122	11/13/2022 11:57	70559	
FC-CCR-MW63-1122	11/13/2022 12:28	70560	
FC-CCR-MW64-1122	11/13/2022 13:33	70561	
FC-CCR-MW65-1122	11/13/2022 09:37	70562	
FC-CCR-DMX03-1122	11/11/2022 15:00	70563	
FC-CCR-DMX04-1122	11/14/2022 13:37	70564	
FC-CCR-MW06-1122	11/14/2022 15:17	70565	
FC-CCR-MW17R-1122	11/15/2022 12:47	70566	
FC-CCR-MW38R-1122	11/15/2022 13:33	70567	
FC-CCR-MW56-1122	11/15/2022 11:58	70568	
FC-CCR-MW57-1122	11/15/2022 14:32	70569	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

Note:

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APS Four Corners CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	70570-70571, 70579	**Review Date:**	12/12/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW61-1122	11/11/2022 9:25	70570	
FC-CCR-MW75-1122	11/11/2022 10:33	70571	
FC-CCR-MW87-1122	11/15/2022 15:27	70579	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

The COC with sample FC-CCR-MW87-1122 has no documentation (name, company, date/time) relinquishing the sample to RSE.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APS Four Corners CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	70581-70586	**Review Date:**	12/12/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-DMX06-1122	11/16/2022 10:48	70581	
FC-CCR-MW15-1122	11/16/2022 11:35	70582	
FC-CCR-MW16-1122	11/16/2022 12:26	70583	
FC-CCR-MW07-1122	11/16/2022 14:12	70584	
FC-CCR-MW08-1122	11/16/2022 13:25	70585	
FC-CCR-MW49A-1122	11/16/2022 9:03	70586	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

Note:

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

Note:

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

Note:

FD = Imprecision between primary and field duplicate results.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APS Four Corners CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	70587-70592	**Review Date:**	12/13/2022
Validator's Name:	Caitlin Riechmann	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
FC-CCR-MW67-1122	11/16/2022 15:30	70587	
FC-CCR-MW85-1122	11/16/2022 16:12	70588	
FC-CCR-SW1-1122	11/16/2022 14:45	70589	
FC-CCR-SW2-1122	11/16/2022 17:06	70590	
FC-CCR-SW3-1122	11/16/2022 16:54	70591	
FC-CCR-FD08-1122	11/16/2022 9:33	70592	Field duplicate of FC-CCR-SW1-1122

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

Note:

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Note:

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

Note:

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
FC-CCR-SW1-1122	FC-CCR-FD08-1122

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD or Difference	Effect on Data Usability

Note:

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APPENDIX

K

GROUNDWATER QUALITY DATA TABLES THROUGH 2022

Groundwater Sampling Results for the Additional Monitoring Wells

Appendix III Constituents

				Constituent:	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
				Filtered:	N	Y	N	Y	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L
DMX-01	Closed Ash Pond 6	Downgradient	4/20/1992	DMX-1_4/20/1992	--	5.42	--	466	700	0.87	--	7.7	12,000	21,000
DMX-01	Closed Ash Pond 6	Downgradient	3/18/2015	FCPP-DMX1-031815	140	--	450	--	3,000	< 0.80	--	--	12,000	20,000
DMX-01	Closed Ash Pond 6	Downgradient	6/24/2015	DMX-1	140	--	420	--	1,600	< 8.0	--	7.1	11,000	21,000
DMX-01	Closed Ash Pond 6	Downgradient	8/28/2015	FCPP-DMX1-082815	140	--	430	--	1,400	< 2.0	--	7.07	12,000	21,000
DMX-01	Closed Ash Pond 6	Downgradient	11/4/2015	FC DMX-1-(041115)	140	--	420	--	1,200	< 2.0	--	7.1	9,800	20,000
DMX-01	Closed Ash Pond 6	Downgradient	6/21/2016	FC-SEEPS-DMX-1-062116	130	--	420	--	1,500	0.67	--	7.02	12,000	20,000
DMX-01	Closed Ash Pond 6	Downgradient	4/25/2021	FC-CCR-DMX01-0421	89	--	--	--	--	--	7.63	--	--	--
DMX-01	Closed Ash Pond 6	Downgradient	11/14/2021	FC-CCR-DMX01	99	--	--	--	--	--	6.88	--	--	--
DMX-01	Closed Ash Pond 6	Downgradient	11/14/2021	FC-CCR-FD06	100	--	--	--	--	--	6.88	--	--	--
DMX-01	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-DMX01-0522	66	--	--	--	--	--	6.85	--	--	--
DMX-01	Closed Ash Pond 6	Downgradient	11/11/2022	FC-CCR-DMX01-1122	80	--	--	--	--	--	6.94	--	--	--
DMX-01	Closed Ash Pond 6	Downgradient	11/11/2022	*DUP* FC-CCR-FD04-1122	83	--	--	--	--	--	6.94	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	9/28/1987	MW-1_9/28/1987	--	13	--	430	570	0.90	7.33	7.4	9,000	15,000
MW-01	Closed Ash Pond 6	Downgradient	6/27/1988	MW-1-19880627	--	--	436	--	619	0.90	7.17	--	8,644	14,582
MW-01	Closed Ash Pond 6	Downgradient	9/21/1988	MW-1-19880921	11.5	--	411	--	597	0.90	6.93	--	8,398	15,405
MW-01	Closed Ash Pond 6	Downgradient	11/20/1988	MW-1-19881120	9.9	--	414	--	463	0.80	7.15	--	7,922	14,475
MW-01	Closed Ash Pond 6	Downgradient	3/6/1989	MW-1-19890306	12	--	432	--	734	0.80	7.00	--	9,295	15,490
MW-01	Closed Ash Pond 6	Downgradient	9/11/1989	MW-1-19890911	13.7	--	360	--	678	0.90	7.18	--	8,299	14,710
MW-01	Closed Ash Pond 6	Downgradient	3/26/1990	MW-1-19900326	14.9	--	380	--	608	0.80	7.20	--	8,327	13,790
MW-01	Closed Ash Pond 6	Downgradient	9/18/1990	MW-1-19900918	25	--	370	--	578	0.50	7.20	--	7,982	13,565
MW-01	Closed Ash Pond 6	Downgradient	3/27/1991	MW-1-19910327	24.1	--	360	--	788	0.50	7.11	--	9,495	13,460
MW-01	Closed Ash Pond 6	Downgradient	9/11/1991	MW-1-19910911	22.6	--	427	--	779	0.60	7.21	--	10,440	13,450
MW-01	Closed Ash Pond 6	Downgradient	4/30/1992	MW-1-19920430	30.8	--	360	--	651	0.60	7.23	--	8,840	12,720
MW-01	Closed Ash Pond 6	Downgradient	10/27/1992	MW-1-19921027	41	--	400	--	569	0.80	7.23	--	7,500	11,910
MW-01	Closed Ash Pond 6	Downgradient	4/21/1993	MW-1-19930421	36	--	390	--	639	0.60	7.20	--	8,230	12,670
MW-01	Closed Ash Pond 6	Downgradient	11/23/1993	MW-1-19931123	46	--	380	--	627	0.70	7.12	--	8,650	12,850
MW-01	Closed Ash Pond 6	Downgradient	4/20/1994	MW-1-19940420	38	--	430	--	728	0.70	7.20	--	8,250	14,340
MW-01	Closed Ash Pond 6	Downgradient	8/11/1994	MW-1-19940811	41	--	440	--	662	0.70	7.16	--	7,626	12,450
MW-01	Closed Ash Pond 6	Downgradient	4/6/1995	MW-1-19950406	43	--	410	--	777	0.60	7.14	--	7,930	13,800
MW-01	Closed Ash Pond 6	Downgradient	11/19/1995	MW-1-19951119	62.3	--	400	--	603	0.80	7.26	--	7,034	12,130
MW-01	Closed Ash Pond 6	Downgradient	8/13/1996	MW-1-19960813	54.1	--	320	--	575.6	0.70	7.34	--	7,034	12,210
MW-01	Closed Ash Pond 6	Downgradient	4/23/1997	MW-1-19970423	51.2	--	300	--	590.5	0.70	7.24	--	6,845	11,850
MW-01	Closed Ash Pond 6	Downgradient	10/20/1997	MW-1-19971020	57.7	--	380	--	549.5	1.0	7.48	--	7,003	11,890
MW-01	Closed Ash Pond 6	Downgradient	4/6/1998	MW-1-19980406	--	--	--	--	644	0.80	7.33	--	7,334	--
MW-01	Closed Ash Pond 6	Downgradient	10/19/1998	MW-1-19981019	55.1	--	380	--	591.9	0.70	7.36	--	7,345	11,666
MW-01	Closed Ash Pond 6	Downgradient	6/9/1999	MW-1-19990609	48.6	--	360	--	650.7	0.70	7.39	--	7,480	13,130
MW-01	Closed Ash Pond 6	Downgradient	12/6/1999	MW-1-19991206	60	--	440	--	493	1.0	7.37	--	6,334	110,940
MW-01	Closed Ash Pond 6	Downgradient	5/24/2000	MW-1-20000524	55.3	--	416	--	680.1	0.90	7.13	--	7,484	11,410
MW-01	Closed Ash Pond 6	Downgradient	11/14/2000	MW-1-20001114	67.4	--	2,460	--	463.5	1.2496	7.02	--	6,052	10,690
MW-01	Closed Ash Pond 6	Downgradient	8/22/2001	MW-1-20010822	55.3	--	400	--	540	1.1	7.27	--	5,494	10,790
MW-01	Closed Ash Pond 6	Downgradient	12/5/2001	MW-1-20011205	69.3	--	360	--	536.5	1.0	7.17	--	6,121	10,710
MW-01	Closed Ash Pond 6	Downgradient	6/11/2002	MW-1-20020611	68.1	--	400	--	535	1.7	7.59	--	5,928	10,910
MW-01	Closed Ash Pond 6	Downgradient	12/17/2002	MW-1-20021217	65.7	--	390	--	530.5	1.3	7.27	--	5,879	11,360
MW-01	Closed Ash Pond 6	Downgradient	5/28/2003	MW-1-20030528	70.5	--	380	--	400.5	1.3	7.15	--	4,102	11,490
MW-01	Closed Ash Pond 6	Downgradient	12/24/2003	MW-1-20031224	65.9	--	350	--	670	7.8	7.18	--	6,574	10,620
MW-01	Closed Ash Pond 6	Downgradient	4/21/2004	MW-1-20040421	--	--	410	--	517	1.4	7.20	--	5,337	10,690
MW-01	Closed Ash Pond 6	Downgradient	11/29/2004	MW-1-20041129	69.6	--	450	--	1,840	1.8	7.24	--	10,277	10,680
MW-01	Closed Ash Pond 6	Downgradient	6/5/2005	MW-1-20050605	64.8	--	440	--	556.5	1.2	7.25	--	5,145	10,120
MW-01	Closed Ash Pond 6	Downgradient	12/12/2005	MW-1-20051212	65.3	--	460	--	568.5	--	7.08	--	5,050	10,630
MW-01	Closed Ash Pond 6	Downgradient	5/17/2006	MW-1-20060517	66.9	--	441	--	574	1.83	7.20	--	5,790	10,400
MW-01	Closed Ash Pond 6	Downgradient	10/12/2006	MW-1-20061012	67.6	--	443	--	673	1.8	7.22	--	6,880	10,600
MW-01	Closed Ash Pond 6	Downgradient	4/19/2007	MW-1-20070419	70.7	--	431	--	623	1.72	7.24	--	5,870	10,600
MW-01	Closed Ash Pond 6	Downgradient	11/19/2007	MW-1-20071119	57.8	--	362	--	690	2.0	7.16	--	6,600	11,000
MW-01	Closed Ash Pond 6	Downgradient	5/8/2008	MW-1-20080508	61.7	--	371	--	660	1.92	7.36	--	7,000	10,600
MW-01	Closed Ash Pond 6	Downgradient	9/27/2012	MW-1-092712-04	62	--	410	--	710	2.6	--	--	6,400	11,000
MW-01	Closed Ash Pond 6	Downgradient	9/27/2012	MW-1-092712-01	62	--	390	--	730	2.6	--	--	6,500	11,000
MW-01	Closed Ash Pond 6	Downgradient	11/18/2013	FC-DUP-111813	69	--	470	--	720	3.8	--	--	6,400	11,000
MW-01	Closed Ash Pond 6	Downgradient	11/18/2013	FC-01-111813	63	--	470	--	710	3.6	--	--	6,200	11,000
MW-01	Closed Ash Pond 6	Downgradient	9/9/2014	FCPP-01MS-090914	63	--	390	--	--	--	--	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	9/9/2014	FCPP-01-090914	61	--	410	--	650	1.5	--	--	6,100	10,000
MW-01	Closed Ash Pond 6	Downgradient	3/17/2015	FCPP-01-031715	65	--	420	--	630	1.8	--	--	6,100	9,900
MW-01	Closed Ash Pond 6	Downgradient	6/30/2015	MW-1	65	--	390	--	680	2.5	--	7.29	5,700	10,000
MW-01	Closed Ash Pond 6	Downgradient	8/27/2015	FCPP-1-082715	66	--	440	--	550	4.2	--	7.16	6,000	9,600
MW-01	Closed Ash Pond 6	Downgradient	6/17/2016	FC-Seep-MW1-616	61	--	420	--	760	3.1	--	7.55	6,100	10,000
MW-01	Closed Ash Pond 6	Downgradient	9/15/2016	FC-Seep-MW1-916	64	--	420	--	560	3.7	--	7.2	6,600	9,800
MW-01	Closed Ash Pond 6	Downgradient	6/21/2020	FC-CCR-MW01-0620	--	--	--	--	--	--	6.90	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	6/21/2020	*DUP* FC-CCR-FD03-	--	--	--	--	--	--	--	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	11/8/2020	FC-CCR-MW01-1120	56	--	--	--	--	--	7.06	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	11/8/2020	*DUP* FC-CCR-FD03-	56	--	--	--	--	--	--	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	4/24/2021	FC-CCR-MW01-0421	56	--	--	--	--	--	7.67	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	4/24/2021	FC-CCR-FD03-0421	56	--	--	--	--	--	7.67	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	11/13/2021	FC-CCR-MW01	63	--	--	--	--	--	6.84	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-MW01-0522	55	--	--	--	--	--	6.96	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	5/23/2022	*DUP* FC-CCR-FD05-	54	--	--	--	--	--	6.96	--	--	--
MW-01	Closed Ash Pond 6	Downgradient	11/10/2022	FC-CCR-MW01-1122	54	--	--	--	--	--	6.97	--	--	--
MW-03	Closed Ash Pond 6	Downgradient	4/1/1987	MW-3_4/1/1987	--	1.2	--	460	1,100	0.50	7.60	7.1	30,000	43,000
MW-03	Closed Ash Pond 6	Downgradient	9/29/1987	MW-3_9/29/1987	--	1.6	--	470	1,300	< 0.5	6.99	7.2	36,000	58,000
MW-03	Closed Ash Pond 6	Downgradient	6/28/1988	MW-3-19880628	--	--	472	--	1,152	1.2	7.41	--	30,437	60,998
MW-03	Closed Ash Pond 6	Downgradient	9/21/1988	MW-3-19880921	2.0	--	405	--	1,006	1.2	7.29	--	31,759	55,105
MW-03	Closed Ash Pond 6	Downgradient	11/20/1988	MW-3-19881120	1.0	--	476	--	792	1.5	7.34	--	34,816	56,200
MW-03	Closed Ash Pond 6	Downgradient	2/27/1989	MW-3-19890227	2.0	--	448	--	1,127	1.2	7.37	--	35,052	55,715
MW-03	Closed Ash Pond 6	Downgradient	9/13/1989	MW-3-19890913	2.0	--	460	--	1,336	1.4	7.21	--	35,948	56,820
MW-03	Closed Ash Pond 6	Downgradient	3/22/1990	MW-3-19900322	1.0	--	500	--	1,211	1.3	7.20	--	32,683	56,340
MW-03	Closed Ash Pond 6	Downgradient	10/30/1990	MW-3-19901030	1.0	--	300	--	1,409	0.40	7.32	--	38,450	56,485
MW-03	Closed Ash Pond 6	Downgradient	4/4/1991	MW-3-19910404	1.0	--	240	--	1,350	0.30	7.21	--	37,010	51,680
MW-03	Closed Ash Pond 6	Downgradient	9/30/1991	MW-3-19910930	1.0	--	204	--	1,276	0.30	7.38	--	43,130	58,250
MW-03	Closed Ash Pond 6	Downgradient	5/7/1992	MW-3-19920507	1.0	--	180	--	1,290	0.30	7.39	--	33,170	52,020
MW-03	Closed Ash Pond 6	Downgradient	11/5/1992	MW-3-19921105	1.0	--	220	--	1,170	0.30	7.17	--	31,495	48,580
MW-03	Closed Ash Pond 6	Downgradient	4/28/1993	MW-3-19930428	1.0	--	350	--	1,249	0.26	7.20	--	31,345	47,800
MW-03	Closed Ash Pond 6	Downgradient	11/30/1993	MW-3-19931130	2.0	--	280	--	1,216	0.30	7.22	--	31,475	48,630
MW-03	Closed Ash Pond 6	Downgradient	4/21/1994	MW-3-19940421	1.0	--	340	--	1,151	0.30	7.28	--	30,190	46,580
MW-03	Closed Ash Pond 6	Downgradient	9/20/1994	MW-3-19940920	2.0	--	380	--	1,171	0.30	7.23	--	28,895	45,520
MW-03	Closed Ash Pond 6	Downgradient	12/14/1994	MW-3-19941214	--	--	430	--	--	--	7.03	--	--	--
MW-03	Closed Ash Pond 6	Downgradient	4/6/1995	MW-3-19950406	1.0	--	360	--	1,183	0.20	7.05	--	28,085	43,870
MW-03	Closed Ash Pond 6	Downgradient	12/12/1995	MW-3-19951212	1.41	--	400	--	1,066	0.30	7.23	--	26,745	41,150
MW-03	Closed Ash Pond 6	Downgradient	8/14/1996	MW-3-19960814	1.16	--	300	--	1,110	0.20	7.22	--	25,150	40,430
MW-03	Closed Ash Pond 6	Downgradient	4/23/1997	MW-3-19970423	1.6	--	260	--	1,083	0.20	7.21	--	24,100	39,420
MW-03	Closed Ash Pond 6	Downgradient	10/13/1997	MW-3-19971013	< 0.05	--	300	--	1,164	0.20	7.27	--	25,154	38,450
MW-03	Closed Ash Pond 6	Downgradient	4/15/1998	MW-3-19980415	1.73	--	320	--	1,052	0.20	7.20	--	22,542	39,920
MW-03	Closed Ash Pond 6	Downgradient	9/29/1998	MW-3-19980929	1.73	--	70	--	1,228	0.20	7.24	--	25,071	38,140
MW-03	Closed Ash Pond 6	Downgradient	5/10/1999	MW-3-19990510	4.1	--	50	--	1,075	0.30	7.23	--	22,883	38,650
MW-03	Closed Ash Pond 6	Downgradient	12/8/1999	MW-3-19991208	3.8	--	170	--	990	0.30	6.89	--	20,512	34,270
MW-03	Closed Ash Pond 6	Downgradient	5/10/2000	MW-3-20000510	4.72	--	457	--	1,309	0.30	7.13	--	29,283	35,180
MW-03	Closed Ash Pond 6	Downgradient	11/27/2000	MW-3-20001127	6.01	--	180	--	971.2	0.5938	7.23	--	16,024	36,290
MW-03	Closed Ash Pond 6	Downgradient	8/20/2001	MW-3-20010820	5.96	--	210	--	942.2	0.30	7.16	--	27,067	31,650
MW-03	Closed Ash Pond 6	Downgradient	12/4/2001	MW-3-20011204	3.9	--	180	--	1,142	0.50	6.52	--	20,827	33,270
MW-03	Closed Ash Pond 6	Downgradient	6/12/2002	MW-3-20020612	4.93	--	180	--	970.2	0.40	7.38	--	20,675	33,320
MW-03	Closed Ash Pond 6	Downgradient	12/17/2002	MW-3-20021217	4.34	--	200	--	1,059	0.30	7.23	--	18,595	32,590
MW-03	Closed Ash Pond 6	Downgradient	6/3/2003	MW-3-20030603	--	--	190	--	918.4	0.30	7.12	--	18,531	33,050
MW-03	Closed Ash Pond 6	Downgradient	9/24/2003	MW-3-20030924	3.86	--	215	--	975.6	0.54	6.65	--	17,891	32,470
MW-03	Closed Ash Pond 6	Downgradient	6/16/2004	MW-3-20040616	--	--	250	--	1,062	0.30	7.03	--	18,085	32,180
MW-03	Closed Ash Pond 6	Downgradient	11/9/2004	MW-3-20041109	4.2	--	455	--	992.4	0.40	7.25	--	16,893	31,490
MW-03	Closed Ash Pond 6	Downgradient	5/12/2005	MW-3-20050512	3.64	--	320	--	1,087	0.30	7.43	--	17,858	30,930
MW-03	Closed Ash Pond 6	Downgradient	11/1/2005	MW-3-20051101	3.96	--	422	--	1,027	0.40	7.03	--	16,628	30,270
MW-03	Closed Ash Pond 6	Downgradient	5/16/2006	MW-3-20060516	4.28	--	423	--	932	0.466	7.19	--	19,300	29,900
MW-03	Closed Ash Pond 6	Downgradient	10/12/2006	MW-3-20061012	4.55	--	461	--	1,020	0.359	7.15	--	19,700	28,300
MW-03	Closed Ash Pond 6	Downgradient	4/18/2007	MW-3-20070418	5.47	--	427	--	1,190	0.209	7.18	--	18,400	29,400
MW-03	Closed Ash Pond 6	Downgradient	11/19/2007	MW-3-20071119	4.11	--	326	--	970	0.40	7.11	--	15,000	28,600
MW-03	Closed Ash Pond 6	Downgradient	5/7/2008	MW-3-20080507	4.9	--	346	--	940	0.40	7.05	--	16,400	28,400
MW-03	Closed Ash Pond 6	Downgradient	12/3/2009	MW-3-20091203	5.7	--	363	--	880	0.40	7.00	--	15,800	26,600
MW-03	Closed Ash Pond 6	Downgradient	9/28/2012	MW-3-092812-01	8.8	--	380	--	900	< 8.0	--	--	14,000	23,000
MW-03	Closed Ash Pond 6	Downgradient	9/29/2012*	MW-3-092912-03	< 0.20	--	< 2.0	--	< 2.0	< 0.40	--	--	< 2.0	26
MW-03	Closed Ash Pond 6	Downgradient	3/11/2014	FC-03-031114	7.4	--	410	--	940	< 0.80	--	--	14,000	23,000
MW-03	Closed Ash Pond 6	Downgradient	9/9/2014	FCPP-03-090914	7.7	--	380	--	1,000	< 0.80	--	--	17,000	12,000
MW-03	Closed Ash Pond 6	Downgradient	3/18/2015	FCPP-03-031815	7.1	--	390	--	1,000	< 0.80	--	--	19,000	22,000
MW-03	Closed Ash Pond 6	Downgradient	4/2/2015	FC-GF-3-0415	--	--	--	--	1,700	--	--	--	3,350	--
MW-03	Closed Ash Pond 6	Downgradient	6/24/2015	MW-3	7.7	--	380	--	930	< 8.0	--	7.18	14,000	23,000

Appendix IV Constituents

		Constituent:	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Mercury	Molybdenum	Selenium	Thallium	Total Radium
		Filtered:	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	N	Y	N	N	Y	N	N	N	N
		Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
DMX-01	4/20/1992	DMX-1_4/20/1992	--	--	< 0.05	--	0.023	--	< 0.005	--	< 0.005	--	< 0.010	--	0.87	--	0.011	--	--	< 0.0002	--	--	--	--
DMX-01	3/18/2015	FCPP-DMX1-031815	--	< 0.0050	--	--	--	--	--	--	--	< 0.013	--	--	< 0.80	--	--	--	--	--	--	< 0.015	--	--
DMX-01	6/24/2015	DMX-1	--	< 0.15	--	--	--	--	--	--	--	< 0.15	--	--	< 8.0	--	--	--	--	--	--	< 0.15	--	--
DMX-01	8/28/2015	FCPP-DMX1-082815	--	< 0.012	--	--	--	--	--	< 0.0020	--	< 0.012	--	--	< 2.0	--	--	--	--	--	--	0.016	--	--
DMX-01	11/4/2015	FC DMX-1-(041115)	< 0.0050	< 0.0010	--	0.023	--	< 0.0010	--	< 0.00050	--	< 0.0025	--	0.0031	< 2.0	< 0.00050	--	< 5.0	< 0.00020	--	0.0068	0.007	< 0.00050	--
DMX-01	6/21/2016	FC-SEEPS-DMX-1-062116	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	0.67	--	--	--	< 0.00020	--	--	--	--	--
DMX-01	4/25/2021	FC-CCR-DMX01-0421	--	--	--	--	--	--	--	--	--	--	--	0.00089 J	--	--	--	--	--	--	0.014	--	--	--
DMX-01	11/14/2021	FC-CCR-DMX01	--	--	--	--	--	--	--	--	--	--	--	0.00073 J	--	--	--	--	--	--	0.019	--	--	--
DMX-01	11/14/2021	FC-CCR-FD06	--	--	--	--	--	--	--	--	--	--	--	0.001 J	--	--	--	--	--	--	0.021	--	--	--
DMX-01	5/23/2022	FC-CCR-DMX01-0522	--	--	--	--	--	--	--	--	--	--	--	0.0020	--	--	--	--	--	--	0.012	--	--	--
DMX-01	11/11/2022	FC-CCR-DMX01-1122	--	--	--	--	--	--	--	--	--	--	--	0.00064	--	--	--	--	--	--	0.0094	--	--	--
DMX-01	11/11/2022	*DUP* FC-CCR-FD04-1122	--	--	--	--	--	--	--	--	--	--	--	0.00052	--	--	--	--	--	--	0.0085	--	--	--
MW-01	9/28/1987	MW-1_9/28/1987	--	--	< 0.05	--	0.23	--	--	--	< 0.005	--	< 0.005	--	0.90	--	0.060	--	--	< 0.0001	--	--	--	--
MW-01	6/27/1988	MW-1-19880627	--	--	--	--	--	--	--	--	--	--	--	--	0.90	--	--	--	< 0.01	--	--	--	--	--
MW-01	9/21/1988	MW-1-19880921	--	--	--	--	--	--	--	--	--	--	--	--	0.90	--	--	--	--	--	--	--	--	--
MW-01	11/20/1988	MW-1-19881120	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	--	--	--	--	--	--	--	--
MW-01	3/6/1989	MW-1-19890306	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	--	--	--	--	--	--	--	--
MW-01	9/11/1989	MW-1-19890911	--	--	--	--	--	--	--	--	--	--	--	--	0.90	--	--	--	--	--	--	--	--	--
MW-01	3/26/1990	MW-1-19900326	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	--	--	--	--	--	--	--	--
MW-01	9/18/1990	MW-1-19900918	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-01	3/27/1991	MW-1-19910327	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-01	9/11/1991	MW-1-19910911	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--
MW-01	4/30/1992	MW-1-19920430	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--
MW-01	10/27/1992	MW-1-19921027	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	--	--	--	--	--	--	--	--
MW-01	4/21/1993	MW-1-19930421	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--
MW-01	11/23/1993	MW-1-19931123	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--
MW-01	4/20/1994	MW-1-19940420	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--
MW-01	8/11/1994	MW-1-19940811	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--
MW-01	4/6/1995	MW-1-19950406	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--
MW-01	11/19/1995	MW-1-19951119	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	--	--	--	--	--	--	--	--
MW-01	8/13/1996	MW-1-19960813	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--
MW-01	4/23/1997	MW-1-19970423	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--
MW-01	10/20/1997	MW-1-19971020	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--
MW-01	4/6/1998	MW-1-19980406	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	--	--	--	--	--	--	--	--
MW-01	10/19/1998	MW-1-19981019	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--
MW-01	6/9/1999	MW-1-19990609	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--
MW-01	12/6/1999	MW-1-19991206	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--
MW-01	5/24/2000	MW-1-20000524	--	--	--	--	--	--	--	--	--	--	--	--	0.90	--	--	--	--	--	--	--	--	--
MW-01	11/14/2000	MW-1-20001114	--	--	--	--	--	--	--	--	--	--	--	--	1.2496	--	--	--	--	--	--	--	--	--
MW-01	8/22/2001	MW-1-20010822	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--
MW-01	12/5/2001	MW-1-20011205	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--
MW-01	6/11/2002	MW-1-20020611	--	--	--	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--	--
MW-01	12/17/2002	MW-1-20021217	--	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--	--
MW-01	5/28/2003	MW-1-20030528	--	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--	--
MW-01	12/24/2003	MW-1-20031224	--	--	--	--	--	--	--	--	--	--	--	--	7.8	--	--	--	--	--	--	--	--	--
MW-01	4/21/2004	MW-1-20040421	--	--	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--
MW-01	11/29/2004	MW-1-20041129	--	--	--	--	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	--
MW-01	6/5/2005	MW-1-20050605	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--
MW-01	12/12/2005	MW-1-20051212	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	5/17/2006	MW-1-20060517	--	--	--	--	--	--	--	--	--	--	--	--	1.83	--	--	--	--	--	--	--	--	--
MW-01	10/12/2006	MW-1-20061012	--	--	--	--	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	--
MW-01	4/19/2007	MW-1-20070419	--	--	--	--	--	--	--	--	--	--	--	--	1.72	--	--	--	--	--	--	--	--	--
MW-01	11/19/2007	MW-1-20071119	--	--	--	--	--	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	--	--
MW-01	5/8/2008	MW-1-20080508	--	--	--	--	--	--	--	--	--	--	--	--	1.92	--	--	--	--	--	--	--	--	--
MW-01	9/27/2012	MW-1-092712-04	--	< 0.0010	--	--	--	--	--	--	--	0.0018	--	--	2.6	--	--	--	--	--	--	0.0016	--	--
MW-01	9/27/2012	MW-1-092712-01	--	< 0.0010	--	--	--	--	--	--	--	0.0014	--	--	2.6	--	--	--	--	--	--	0.0018	--	--
MW-01	11/18/2013	FC-DUP-111813	--	0.00030	--	--	--	--	--	--	--	0.0018	--	--	3.8	--	--	--	--	--	--	< 0.001	--	--
MW-01	11/18/2013	FC-01-111813	--	0.00051	--	--	--	--	--	--	--	0.0019	--	--	3.6	--	--	--	--	--	--	< 0.001	--	--
MW-01	9/9/2014	FCPP-01MS-090914	--	0.00031	--	--	--	--	--	--	--	0.0015	--	--	--	--	--	--	--	--	--	0.0010	--	--
MW-01	9/9/2014	FCPP-01-090914	--	0.00043	--	--	--	--	--	--	--	0.0016	--	--	1.5	--	--	--	--	--	--	0.0008	--	--
MW-01	3/17/2015	FCPP-01-031715	--	0.00039	--	--	--	--	--	--	--	0.0016	--	--	1.8	--	--	--	--	--	--	0.0009	--	--
MW-01	6/30/2015	MW-1	--	< 0.012	--	--	--	--	--	--	--	< 0.012	--	--	2.5	--	--	--	--	--	--	< 0.012	--	--
MW-01	8/27/2015	FCPP-1-082715	--	< 0.0030	--	--	--	--	--	0.0027	--	< 0.030	--	--	4.2	--	--	--	--	--	--	0.0056	--	--
MW-01	6/17/2016	FC-Seep-MW1-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	3.1	--	--	--	< 0.00020	--	--	--	--	--
MW-01	9/15/2016	FC-Seep-MW1-916	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	3.7	--	--	--	< 0.00020	--	--	--	--	--
MW-01	6/21/2020	FC-CCR-MW01-0620	--	--	--	--	--	--	--	--	--	--	--	0.073	--	--	--	--	--	--	0.045	--	--	--
MW-01	6/21/2020	*DUP* FC-CCR-FD03-	--	--	--	--	--	--	--	--	--	--	--	0.073	--	--	--	--	--	--	0.041	--	--	--
MW-01	11/8/2020	FC-CCR-MW01-1120	--	--	--	--	--	--	--	--	--	--	--	0.0015 J	--	--	--	--	--	--	0.00051 J	--	--	--
MW-01	11/8/2020	*DUP* FC-CCR-FD03-	--	--	--	--	--	--	--	--	--	--	--	0.00035 J	--	--	--	--	--	--	0.055 J	--	--	--
MW-01	4/24/2021	FC-CCR-MW01-0421	--	--	--	--	--	--	--	--	--	--	--	0.066	--	--	--	--	--	--	0.031	--	--	--
MW-01	4/24/2021	FC-CCR-FD03-0421	--	--	--	--	--	--	--	--	--	--	--	0.070	--	--	--	--	--	--	0.034	--	--	--
MW-01	11/13/2021	FC-CCR-MW01	--	--	--	--	--	--	--	--	--	--	--	0.074	--	--	--	--	--	--	0.036	--	--	--
MW-01	5/23/2022	FC-CCR-MW01-0522	--	--	--	--	--	--	--	--	--	--	--	0.056	--	--	--	--	--	--	0.025	--	--	--
MW-01	5/23/2022	*DUP* FC-CCR-FD05-	--	--	--	--	--	--	--	--	--	--	--	0.057	--	--	--	--	--	--	0.025	--	--	--
MW-01	11/10/2022	FC-CCR-MW01-1122	--	--	--	--	--	--	--	--	--	--	--	0.047	--	--	--	--	--	--	0.024	--	--	--
MW-03	4/1/1987	MW-3_4/1/1987	--	--	< 0.1	--	< 0.005	--	--	--	< 0.005	--	< 0.005	--	0.50	--	< 0.05	--	--	< 0.0001	--	--	--	--
MW-03	9/29/1987	MW-3_9/29/1987	--	--	< 0.05	--	0.59	--	--	--	< 0.005	--	< 0.005	--	< 0.5	--	0.090	--	--	< 0.0001	--	--	--	--
MW-03	6/28/1988	MW-3-19880628	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	< 0.001	--	--	--	--	--
MW-03	9/21/1988	MW-3-19880921	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--
MW-03	11/20/1988	MW-3-19881120	--	--	--	--	--	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	--
MW-03	2/27/1989	MW-3-19890227	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--
MW-03	9/13/1989	MW-3-19890913	--	--	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--
MW-03	3/22/1990	MW-3-19900322	--	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--	--
MW-03	10/30/1990	MW-3-19901030	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-03	4/4/1991	MW-3-19910404	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	9/30/1991	MW-3-19910930	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	5/7/1992	MW-3-19920507	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	11/5/1992	MW-3-19921105	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	4/28/1993	MW-3-19930428	--	--	--	--	--	--	--	--	--	--	--	--	0.26	--	--	--	--	--	--	--	--	--
MW-03	11/30/1993	MW-3-19931130	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	4/21/1994	MW-3-19940421	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	9/20/1994	MW-3-19940920	--	0.080	--	< 0.5	--	--	--	< 0.0005	--	< 0.02	--	--	0.30	< 0.1	--	--	--	--	< 0.01	0.51	--	--
MW-03	12/14/1994	MW-3-19941214	< 0.3	< 0.05	--	< 1	--	< 0.025	--	< 0.025	--	< 0.05	--	< 0.25	--	< 0.015	--	--	< 0.0002	--	--	< 0.025	< 0.05	--
MW-03	4/6/1995	MW-3-19950406	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-03	12/12/1995	MW-3-19951212	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	8/14/1996	MW-3-19960814	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-03	4/23/1997	MW-3-19970423	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-03	10/13/1997	MW-3-19971013	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-03	4/15/1998	MW-3-19980415	--	< 0.005	--	0.020	--	--	--	< 0.001	--	< 0.01	--	--	0.20	< 0.005	--	--	--	--	0.010	< 0.005	--	--
MW-03	9/29/1998	MW-3-19980929	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-03	5/10/1999	MW-3-19990510	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	12/8/1999	MW-3-19991208	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	5/10/2000	MW-3-20000510	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	11/27/2000	MW-3-20001127	--	--	--	--	--	--	--	--	--	--	--	--	0.5938	--	--	--	--	--	--	--	--	--
MW-03	8/20/2001	MW-3-20010820	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	12/4/2001	MW-3-20011204	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-03	6/12/2002	MW-3-20020612	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-03	12/17/2002	MW-3-20021217	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	6/3/2003	MW-3-20030603	--	--	--	0.011	--	0.010	0.011	--	--	--	--	--	0.30	--	--	--	--	--	--	0.27	--	--
MW-03	9/24/2003	MW-3-20030924	--	--	--	--	--	--	--	--	--	--	--	--	0.54	--	--	--	--	--	--	--	--	--
MW-03	6/16/2004	MW-3-20040616	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-03	11/9/2004	MW-3-20041109	--	0.0031	--	0.0438	--	--	--	< 0.0005	--	0.011	--	--	0.40	0.0051	--	--	--	--	0.01055	0.215	--	--
MW-03	5/12/2005	MW-3-20050512	--	0.014	--	0.038	--	< 0.005	--	< 0.001	--	0.010	--	0.0055	0.30	0.0050	--	--	< 0.0002	--	--	0.23	0.0022	--
MW-03	11/1/2005	MW-3-20051101	--	0.034	--	0.0036	--	--	--	--	--	0.0050	--	0.0040	0.40	--	--	--	--	--	--	0.21	--	--
MW-03	5/16/2006	MW-3-20060516	--	0.073	--	0.014	--	0.0010	--	< 0.006	--	< 0.004	--	0.0040	0.466	< 0.012	--	--	--	--	< 0.006	0.227	0.037	--
MW-03	10/12/2006	MW-3-20061012	--	0.026	--	0.015	--	< 0.003	--	< 0.002	--	< 0.002	--	< 0.008	0.359	< 0.009	--	--	--	--	< 0.012	0.185	< 0.025	--
MW-03	4/18/2007	MW-3-20070418	--	0.128	--	0.020	--	< 0.003	--	< 0.002	--	< 0.002	--	0.0040	0.209	< 0.009	--	--	< 0.0022	--	< 0.012	0.219	0.0090	--
MW-03	11/19/2007	MW-3-20071119	--	0.0074	--	0.0126	--	< 0.5	--	< 0.05	--	0.015	--	0.00193	0.40	< 0.1	--	--	--	--	0.0023	0.217	0.00025	--
MW-03	5/7/2008	MW-3-20080507	--	0.0075	--	0.0155	--	< 0.0005	--	< 0.00005	--	0.0050	--	0.00245	0.40	0.00020	--	--	--	--	0.0017	0.166	0.00034	--
MW-03	12/3/2009	MW-3-20091203	--	0.0077	--	0.0129	--	< 0.0005	--	0.00058	--	0.0090	--	0.00138	0.40	< 0.0001	--	--	< 0.0002	--	0.0017	0.219	0.00042	--
MW-03	9/28/2012	MW-3-092812-01	--	< 0.020	--	--	--	--	--	--	--	0.020	--	--	< 8.0	--	--	--	--	--	--	0.16	--	--
MW-03	9/29/2012*	MW-3-092912-03	--	< 0.00050	--	--	--	--	--	--	--	< 0.00050	--	--	< 0.40	--	--	--	--	--	--	< 0.00050	--	--
MW-03	3/11/2014	FC-03-031114	--	0.0016	--	--	--	--	--	--	--	0.021	--	--	< 0.80	--	--	--	--	--	--	0.084	--	--
MW-03	9/9/2014	FCPP-03-090914	--	0.00065	--	--	--	--	--	--	--	< 0.0010	--	--	< 0.80	--	--	--	--	--	--	0.11	--	--
MW-03	3/18/2015	FCPP-03-031815	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	< 0.80	--	--	--	--	--	--	0.079	--	--
MW-03	4/2/2015	FC-GF-3-0415	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	6/24/2015	MW-3	--	< 0.030	--	--	--	--	--	--	--	< 0.030	--	--	< 8.0	--	--	--	--	--	--	0.13	--	--

Additional Analyses

		Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Iron	Magnesium	Magnesium	Manganese	Potassium	Potassium	Radium 226	Radium 228	Selenium	Sodium	Sodium
		Filtered:	N	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	Y
		Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
DMX-01	4/20/1992	DMX-1_4/20/1992	384	< 1	--	384	--	--	--	2090	--	--	37.5	--	--	0.080	--	3,100
DMX-01	3/18/2015	FCPP-DMX1-031815	380	< 6.0	< 6.0	380	< 6.0	--	1,500	--	--	37	--	--	--	--	3,200	--
DMX-01	6/24/2015	DMX-1	380	< 6.0	< 6.0	380	< 6.0	--	1,600	--	--	39	--	--	--	--	3,200	--
DMX-01	8/28/2015	FCPP-DMX1-082815	360	< 6.0	< 6.0	360	< 6.0	--	1,600	--	--	47	--	--	--	--	3,400	--
DMX-01	11/4/2015	FC DMX-1-(041115)	360	< 6.0	< 6.0	360	< 6.0	--	1,500	--	--	37	--	--	--	--	3,200	--
DMX-01	6/21/2016	FC-SEEPS-DMX-1-062116	370	< 6.0	< 6.0	370	< 6.0	--	1,400	--	--	41	--	--	--	--	3,100	--
DMX-01	4/25/2021	FC-CCR-DMX01-0421	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-01	11/14/2021	FC-CCR-DMX01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-01	11/14/2021	FC-CCR-FD06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-01	5/23/2022	FC-CCR-DMX01-0522	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-01	11/11/2022	FC-CCR-DMX01-1122	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-01	11/11/2022	*DUP* FC-CCR-FD04-1122	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	9/28/1987	MW-1_9/28/1987	--	--	--	270	--	--	--	1,100	--	--	46	--	--	< 0.05	--	2,600
MW-01	6/27/1988	MW-1-19880627	319.64	--	--	262	< 0	--	1,120	--	--	48	--	--	--	--	2,360	--
MW-01	9/21/1988	MW-1-19880921	378.2	--	--	310	< 0	--	1,060	--	--	47	--	--	--	--	2,150	--
MW-01	11/20/1988	MW-1-19881120	366	--	--	300	< 0	--	1,070	--	--	54	--	--	--	--	2,190	--
MW-01	3/6/1989	MW-1-19890306	488	--	--	400	< 0	--	1,080	--	--	53	--	--	--	--	2,190	--
MW-01	9/11/1989	MW-1-19890911	610	--	--	500	< 0	--	1,173	--	--	54	--	--	--	--	2,200	--
MW-01	3/26/1990	MW-1-19900326	427	--	--	350	< 0	--	950	--	--	46	--	--	--	--	2,200	--
MW-01	9/18/1990	MW-1-19900918	305	--	--	250	< 0	--	1,000	--	--	40	--	--	--	--	2,200	--
MW-01	3/27/1991	MW-1-19910327	396.5	--	--	325	< 0	--	1,000	--	--	47	--	--	--	--	2,130	--
MW-01	9/11/1991	MW-1-19910911	305	--	--	250	< 0	--	1,100	--	--	49	--	--	--	--	2,100	--
MW-01	4/30/1992	MW-1-19920430	335.5	--	--	275	< 0	--	1,300	--	--	42	--	--	--	--	2,100	--
MW-01	10/27/1992	MW-1-19921027	396.5	--	--	325	< 0	--	1,000	--	--	49	--	--	--	--	1,900	--
MW-01	4/21/1993	MW-1-19930421	427	--	--	350	< 0	--	900	--	--	55	--	--	--	--	2,000	--
MW-01	11/23/1993	MW-1-19931123	335.5	--	--	275	< 0	--	900	--	--	53	--	--	--	--	2,100	--
MW-01	4/20/1994	MW-1-19940420	305	--	--	250	< 0	--	1,000	--	--	64	--	--	--	--	2,400	--
MW-01	8/11/1994	MW-1-19940811	244	--	--	200	< 0	--	900	--	--	60	--	--	--	--	2,100	--
MW-01	4/6/1995	MW-1-19950406	457.5	--	--	375	< 0	--	1,100	--	--	59	--	--	--	--	2,400	--
MW-01	11/19/1995	MW-1-19951119	335.5	--	--	275	< 0	--	1,000	--	--	55	--	--	--	--	3,000	--
MW-01	8/13/1996	MW-1-19960813	610	--	--	500	< 0	--	900	--	--	43	--	--	--	--	2,200	--
MW-01	4/23/1997	MW-1-19970423	457.5	--	--	375	< 0	--	800	--	--	39	--	--	--	--	1,800	--
MW-01	10/20/1997	MW-1-19971020	457.5	--	--	375	< 0	--	800	--	--	42	--	--	--	--	1,700	--
MW-01	4/6/1998	MW-1-19980406	457.5	--	--	375	< 0	--	--	--	--	--	--	--	--	--	--	--
MW-01	10/19/1998	MW-1-19981019	457.5	--	--	375	< 0	--	1,700	--	--	65	--	--	--	--	3,300	--
MW-01	6/9/1999	MW-1-19990609	457.5	--	--	375	< 0	--	800	--	--	31.5	--	--	--	--	1,600	--
MW-01	12/6/1999	MW-1-19991206	325.13	--	--	266.5	< 0	--	800	--	--	33	--	--	--	--	2,200	--
MW-01	5/24/2000	MW-1-20000524	305	--	--	250	< 0	--	831	--	--	33.8	--	--	--	--	1,660	--
MW-01	11/14/2000	MW-1-20001114	335.5	--	--	275	< 0	--	700	--	--	37	--	--	--	--	1,500	--
MW-01	8/22/2001	MW-1-20010822	732	--	--	600	< 0	--	790	--	--	35	--	--	--	--	1,440	--
MW-01	12/5/2001	MW-1-20011205	427	--	--	350	< 0	--	790	--	--	34.5	--	--	--	--	2,300	--
MW-01	6/11/2002	MW-1-20020611	396.5	--	--	325	< 0	--	800	--	--	31.5	--	--	--	--	1,500	--
MW-01	12/17/2002	MW-1-20021217	305	--	--	250	< 0	--	700	--	--	33	--	--	--	--	1,500	--
MW-01	5/28/2003	MW-1-20030528	366	--	--	300	< 0	--	700	--	--	37.5	--	--	--	--	1,600	--
MW-01	12/24/2003	MW-1-20031224	1,769	--	--	1,450	< 0	--	700	--	--	45	--	--	--	--	1,200	--
MW-01	4/21/2004	MW-1-20040421	2,898	--	--	2,375	< 0	--	800	--	--	31.5	--	--	--	--	1,450	--
MW-01	11/29/2004	MW-1-20041129	2,898	--	--	2,375	< 0	--	860	--	--	34	--	--	--	--	1,680	--
MW-01	6/5/2005	MW-1-20050605	366	--	--	300	< 0	--	800	--	--	47	--	--	--	--	1,350	--
MW-01	12/12/2005	MW-1-20051212	396.5	--	--	325	< 0	--	827	--	--	32	--	--	--	--	1,500	--
MW-01	5/17/2006	MW-1-20060517	330.62	--	--	271	< 0	--	757	--	--	29.2	--	--	--	--	1,310	--
MW-01	10/12/2006	MW-1-20061012	334.28	--	--	274	< 0	--	766	--	--	31.5	--	--	--	--	1,500	--
MW-01	4/19/2007	MW-1-20070419	335.5	--	--	275	< 0	--	746	--	--	31.6	--	--	--	--	1,330	--
MW-01	11/19/2007	MW-1-20071119	348.92	--	--	286	< 0	--	620	--	--	28.6	--	--	--	--	1,220	--
MW-01	5/8/2008	MW-1-20080508	353.8	--	--	290	< 0	--	690	--	--	31.7	--	--	--	--	1,260	--
MW-01	9/27/2012	MW-1-092712-04	280	< 6.0	< 6.0	280	< 6.0	--	730	--	--	34	--	--	--	--	1,400	--
MW-01	9/27/2012	MW-1-092712-01	280	< 6.0	< 6.0	280	< 6.0	--	740	--	--	35	--	--	--	--	1,500	--
MW-01	11/18/2013	FC-DUP-111813	270	< 6.0	< 6.0	270	< 6.0	--	770	--	--	35	--	--	--	--	1,600	--
MW-01	11/18/2013	FC-01-111813	220	< 6.0	< 6.0	220	< 6.0	--	740	--	--	34	--	--	--	--	1,600	--
MW-01	9/9/2014	FCPP-01MS-090914	--	--	--	--	--	--	700	--	--	36	--	--	--	--	1,600	--
MW-01	9/9/2014	FCPP-01-090914	260	< 6.0	< 6.0	260	< 6.0	--	680	--	--	34	--	--	--	--	1,500	--
MW-01	3/17/2015	FCPP-01-031715	250	< 6.0	< 6.0	250	< 6.0	--	650	--	--	32	--	--	--	--	1,500	--
MW-01	6/30/2015	MW-1	260	< 6.0	< 6.0	260	< 6.0	--	650	--	--	33	--	--	--	--	1,400	--
MW-01	8/27/2015	FCPP-1-082715	250	< 6.0	< 6.0	250	< 6.0	--	640	--	--	36	--	--	--	--	1,400	--
MW-01	6/17/2016	FC-Seep-MW1-616	270	< 6.0	< 6.0	270	< 6.0	--	660	--	--	35	--	--	--	--	1,600	--
MW-01	9/15/2016	FC-Seep-MW1-916	200	< 6.0	< 6.0	200	< 6.0	--	620	--	--	33	--	--	--	--	1,300	--
MW-01	6/21/2020	FC-CCR-MW01-0620	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	6/21/2020	*DUP* FC-CCR-FD03-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	11/8/2020	FC-CCR-MW01-1120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	11/8/2020	*DUP* FC-CCR-FD03-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	4/24/2021	FC-CCR-MW01-0421	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	4/24/2021	FC-CCR-FD03-0421	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	11/13/2021	FC-CCR-MW01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	5/23/2022	FC-CCR-MW01-0522	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	5/23/2022	*DUP* FC-CCR-FD05-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-01	11/10/2022	FC-CCR-MW01-1122	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	4/1/1987	MW-3_4/1/1987	--	--	--	490	--	--	--	5,100	--	--	64	--	--	0.64	--	5,700
MW-03	9/29/1987	MW-3_9/29/1987	--	--	--	520	--	--	--	6,100	--	--	120	--	--	< 0.05	--	7,300
MW-03	6/28/1988	MW-3-19880628	578.28	--	--	474	< 0	--	6,250	--	--	129	--	--	--	--	7,500	--
MW-03	9/21/1988	MW-3-19880921	573.4	--	--	470	< 0	--	5,490	--	--	107	--	--	--	--	5,490	--
MW-03	11/20/1988	MW-3-19881120	646.6	--	--	530	< 0	--	6,620	--	--	122	--	--	--	--	5,540	--
MW-03	2/27/1989	MW-3-19890227	732	--	--	600	< 0	--	5,880	--	--	122	--	--	--	--	5,950	--
MW-03	9/13/1989	MW-3-19890913	732	--	--	600	< 0	--	5,530	--	--	112	--	--	--	--	6,800	--
MW-03	3/22/1990	MW-3-19900322	732	--	--	600	< 0	--	5,200	--	--	108	--	--	--	--	7,400	--
MW-03	10/30/1990	MW-3-19901030	701.5	--	--	575	< 0	--	5,200	--	--	100	--	--	--	--	7,200	--
MW-03	4/4/1991	MW-3-19910404	732	--	--	600	< 0	--	5,200	--	--	104	--	--	--	--	7,400	--
MW-03	9/30/1991	MW-3-19910930	488	--	--	400	< 0	--	5,560	--	--	106	--	--	--	--	7,460	--
MW-03	5/7/1992	MW-3-19920507	671	--	--	550	< 0	--	4,800	--	--	91	--	--	--	--	6,600	--
MW-03	11/5/1992	MW-3-19921105	701.5	--	--	575	< 0	--	4,400	--	--	106	--	--	--	--	6,600	--
MW-03	4/28/1993	MW-3-19930428	793	--	--	650	< 0	--	4,000	--	--	106	--	--	--	--	7,200	--
MW-03	11/30/1993	MW-3-19931130	671	--	--	550	< 0	--	4,400	--	--	82	--	--	--	--	7,200	--
MW-03	4/21/1994	MW-3-19940421	762.5	--	--	625	< 0	--	4,400	--	--	99	--	--	--	--	6,800	--
MW-03	9/20/1994	MW-3-19940920	610	--	--	500	< 0	--	4,000	--	--	100	--	--	--	--	7,200	--
MW-03	12/14/1994	MW-3-19941214	--	--	--	--	--	--	3,700	--	--	86	--	--	--	--	5,000	--
MW-03	4/6/1995	MW-3-19950406	823.5	--	--	675	< 0	--	4,000	--	--	98	--	--	--	--	6,000	--
MW-03	12/12/1995	MW-3-19951212	671	--	--	550	< 0	--	4,400	--	--	94	--	--	--	--	6,400	--
MW-03	8/14/1996	MW-3-19960814	732	--	--	600	< 0	--	4,000	--	--	84	--	--	--	--	7,200	--
MW-03	4/23/1997	MW-3-19970423	915	--	--	750	< 0	--	3,200	--	--	87	--	--	--	--	5,600	--
MW-03	10/13/1997	MW-3-19971013	915	--	--	750	< 0	--	3,200	--	--	73	--	--	--	--	6,000	--
MW-03	4/15/1998	MW-3-19980415	793	--	--	650	< 0	--	3,400	--	--	72	--	--	--	--	5,600	--
MW-03	9/29/1998	MW-3-19980929	976	--	--	800	< 0	--	3,200	--	--	70	--	--	--	--	5,200	--
MW-03	5/10/1999	MW-3-19990510	671	--	--	550	< 0	--	3,000	--	--	76	--	--	--	--	5,400	--
MW-03	12/8/1999	MW-3-19991208	671	--	--	550	< 0	--	2,600	--	--	69	--	--	--	--	6,200	--
MW-03	5/10/2000	MW-3-20000510	884.5	--	--	725	< 0	--	3,280	--	--	75.2	--	--	--	--	5,310	--
MW-03	11/27/2000	MW-3-20001127	976	--	--	800	< 0	--	2,800	--	--	72	--	--	--	--	6,200	--
MW-03	8/20/2001	MW-3-20010820	457.5	--	--	375	< 0	--	3,000	--	--	76	--	--	--	--	6,450	--
MW-03	12/4/2001	MW-3-20011204	701.5	--	--	575	< 0	--	2,200	--	--	71	--	--	--	--	6,200	--
MW-03	6/12/2002	MW-3-20020612	1,068	--	--	875	< 0	--	2,600	--	--	68	--	--	--	--	5,200	--
MW-03	12/17/2002	MW-3-20021217	793	--	--	650	< 0	--	2,400	--	--	60	--	--	--	--	5,000	--
MW-03	6/3/2003	MW-3-20030603	701.5	--	--	575	< 0	--	2,400	--	--	66	--	--	--	0.29	4,000	--
MW-03	9/24/2003	MW-3-20030924	793	--	--	650	< 0	--	2,200	--	--	75	--	--	--	--	4,200	--
MW-03	6/16/2004	MW-3-20040616	2,837	--	--	2,325	< 0	--	2,600	--	--	75	--	--	--	--	5,400	--
MW-03	11/9/2004	MW-3-20041109	5,704	--	--	4,675	< 0	--	2,580	--	--	65.1	--	--	--	--	4,750	--
MW-03	5/12/2005	MW-3-20050512	854	--	--	700	< 0	--	2,400	--	--	69	--	--	--	--	3,800	--
MW-03	11/1/2005	MW-3-20051101	701.5	--	--	575	< 0	--	2,410	--	--	65.6	--	--	--	--	4,700	--
MW-03	5/16/2006	MW-3-20060516	622.2	--	--	510	< 0	--	2,150	--	--	58.8	--	--	--	--	4,370	--
MW-03	10/12/2006	MW-3-20061012	620.98	--	--	509	< 0	--	2,270	--	--	72	--	--	--	--	4,890	--
MW-03	4/18/2007	MW-3-20070418	628.3	--	--	515	< 0	--	2,130	--	--	58	--	--	--	--	4,370	--
MW-03	11/19/2007	MW-3-20071119	707.6	--	--	580	< 0	--	1,420	--	--	49.2	--	--	--	--	3,240	--
MW-03	5/7/2008	MW-3-20080507	683.2	--	--	560	< 0	--	1,710	--	--	63.1	--	--	--	--	5,020	--
MW-03	12/3/2009	MW-3-20091203	756.4	--	--	620	< 0	--	1,690	--	--	53.7	--	--	--	--	4,530	--
MW-03	9/28/2012	MW-3-092812-01	450	< 6.0	< 6.0	450	< 6.0	--	2,100	--	--	60	--	--	--	--	4,100	--
MW-03	9/29/2012*	MW-3-092912-03	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	--	< 2.0	--	--	< 2.0	--	--	--	--	< 2.0	--
MW-03	3/11/2014	FC-03-031114	480	< 6.0	< 6.0	480	< 6.0	--	1,700	--	--	55	--	--	--	--	3,700	--
MW-03	9/9/2014	FCPP-03-090914	460	< 6.0	< 6.0	460	< 6.0	--	1,800	--	--	61	--	--	--	--	3,900	--
MW-03	3/18/2015	FCPP-03-031815	470	< 6.0	< 6.0	470	< 6.0	--	1,600	--	--	47	--	--	--	--	3,500	--
MW-03	4/2/2015	FC-GF-3-0415	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	6/24/2015	MW-3	440	< 6.0	< 6.0	440	< 6.0	--	1,800	--	--	56	--	--	--	--	3,400	--

Groundwater Sampling Results for the Additional Monitoring Wells

					Appendix III Constituents										Appendix IV Constituents																						Additional Analyses															
				Constituent:	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Iron	Magnesium	Magnesium	Manganese	Potassium	Potassium	Radium 226	Radium 228	Selenium	Sodium	Sodium
				Filtered:	N	Y	N	Y	N	N	N	N	N	N	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	Y
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
MW-03	Closed Ash Pond 6	Downgradient	8/28/2015	FCPP-03-082815	8.2	--	410	--	850	< 2.0	--	7.36	14,000	22,000	--	< 0.012	--	--	--	--	--	< 0.0040	--	< 0.012	--	--	< 2.0	--	--	--	--	--	--	0.13	--	--	450	< 6.0	< 6.0	450	< 6.0	--	1,700	--	--	65	--	--	--	--	3,400	--
MW-03	Closed Ash Pond 6	Downgradient	11/4/2015	FC MW-3-(041115)	8.2	--	440	--	--	--	--	7.23	--	--	--	< 0.0050	--	--	--	--	--	< 0.0025	--	< 0.013	--	--	--	--	--	--	--	--	--	0.077	--	--	--	--	--	--	--	--	1,800	--	--	57	--	--	--	--	4,000	--
MW-03	Closed Ash Pond 6	Downgradient	11/12/2015	FC MW-3-(121115)	7.4	--	360	--	860	< 2.0	--	7.25	14,000	22,000	--	< 0.0010	--	--	--	--	--	--	--	0.0048	--	--	< 2.0	--	--	--	--	--	--	0.10	--	--	410	< 6.0	< 6.0	410	< 6.0	--	1,600	--	--	50	--	--	--	--	3,300	--
MW-03	Closed Ash Pond 6	Downgradient	6/20/2016	FC-Seep-MW3-616	7.8	--	420	--	1,000	0.43	--	7.25	14,000	17,000	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	0.43	--	--	--	< 0.00020	--	--	--	--	--	480	< 6.0	< 6.0	480	< 6.0	--	1,800	--	--	58	--	--	--	--	3,700	--
MW-03	Closed Ash Pond 6	Downgradient	9/15/2016	FC-Seep-MW3-916	8.1	--	390	--	850	0.45	--	7.2	14,000	22,000	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	0.45	--	--	--	< 0.00020	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	--	1,800	--	--	61	--	--	--	--	3,600	--
MW-03	Closed Ash Pond 6	Downgradient	9/15/2016	FC-Seep-MW105-916	7.7	--	370	--	840	0.44	--	7.1	14,000	22,000	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	0.44	--	--	--	< 0.00020	--	--	--	--	--	400	< 6.0	< 6.0	400	< 6.0	--	1,700	--	--	58	--	--	--	--	3,500	--
MW-03	Closed Ash Pond 6	Downgradient	6/21/2020	FC-CCR-MW03-0620	--	--	--	--	--	--	6.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.001	--	--	--	--	--	--	0.0037	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	Closed Ash Pond 6	Downgradient	11/8/2020	FC-CCR-MW03-1120	7.5	--	--	--	--	--	7.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0031	--	--	--	--	--	--	0.003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	Closed Ash Pond 6	Downgradient	4/24/2021	FC-CCR-MW03-0421	7.8	--	--	--	--	--	7.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00054	--	--	--	--	--	--	0.0022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	Closed Ash Pond 6	Downgradient	11/13/2021	FC-CCR-MW03	8.4	--	--	--	--	--	6.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00031	--	--	--	--	--	--	0.0022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-MW03-0522	8.0	--	--	--	--	--	7.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00055	--	--	--	--	--	--	0.0014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-SS08-0522	8.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00165 J	--	--	--	--	--	--	< 0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	Closed Ash Pond 6	Downgradient	11/10/2022	FC-CCR-MW03-1122	8.0	--	--	--	--	--	7.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0005	--	--	--	--	--	--	0.0023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	Closed Ash Pond 6	Downgradient	9/29/1987	MW-19_9/29/1987	--	1.6	--	480	1,200	< 0.5	7.03	7.2	34,000	56,000	--	--	< 0.05	--	0.60	--	--	--	< 0.005	--	< 0.005	--	< 0.5	--	0.11	--	--	< 0.0001	--	--	--	--	--	--	--	640	--	--	--	6,000	--	--	11	--	--	< 0.05	--	7,600
MW-19	Closed Ash Pond 6	Downgradient	6/14/1988	MW-19-19880614	--	--	488	--	1,518	1.1	6.90	--	45,210	75,052	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	< 0.001	--	--	--	--	--	732	--	--	600	< 0	--	8,225	--	--	168	--	--	--	--	8,425	--
MW-19	Closed Ash Pond 6	Downgradient	9/18/1988	MW-19-19880918	2.0	--	476	--	1,555	--	6.97	--	46,211	74,798	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	773.48	--	--	634	< 0	--	8,240	--	--	136	--	--	--	--	8,540	--
MW-19	Closed Ash Pond 6	Downgradient	11/20/1988	MW-19-19881120	2.0	--	417	--	1,306	1.1	6.91	--	43,079	71,375	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--	793	--	--	650	< 0	--	9,610	--	--	146	--	--	--	--	7,860	--
MW-19	Closed Ash Pond 6	Downgradient	2/28/1989	MW-19-19890228	2.0	--	467	--	1,643	1.2	7.02	--	49,042	75,830	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--	976	--	--	800	< 0	--	8,250	--	--	153	--	--	--	--	8,110	--
MW-19	Closed Ash Pond 6	Downgradient	9/12/1989	MW-19-19890912	2.0	--	353	--	1,248	1.3	6.92	--	46,881	71,520	--	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--	--	854	--	--	700	< 0	--	8,000	--	--	125	--	--	--	--	8,200	--
MW-19	Closed Ash Pond 6	Downgradient	3/22/1990	MW-19-19900322	1.0	--	500	--	1,466	1.0	7.00	--	46,993	69,850	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--	732	--	--	600	< 0	--	6,400	--	--	116	--	--	--	--	8,800	--
MW-19	Closed Ash Pond 6	Downgradient	10/30/1990	MW-19-19901030	1.0	--	240	--	1,405	0.20	6.98	--	42,450	63,223	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	732	--	--	600	< 0	--	6,000	--	--	110	--	--	--	--	7,600	--
MW-19	Closed Ash Pond 6	Downgradient	4/3/1991	MW-19-19910403	1.0	--	240	--	1,393	0.20	6.88	--	37,150	56,700	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	793	--	--	650	< 0	--	6,000	--	--	111	--	--	--	--	7,600	--
MW-19	Closed Ash Pond 6	Downgradient	9/25/1991	MW-19-19910925	1.0	--	200	--	1,302	0.20	7.12	--	38,110	55,580	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	823.5	--	--	675	< 0	--	5,800	--	--	108	--	--	--	--	7,780	--
MW-19	Closed Ash Pond 6	Downgradient	5/7/1992	MW-19-19920507	1.0	--	160	--	1,255	0.20	7.10	--	34,900	54,340	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	793	--	--	650	< 0	--	5,200	--	--	92	--	--	--	--	7,400	--
MW-19	Closed Ash Pond 6	Downgradient	11/5/1992	MW-19-19921105	1.0	--	220	--	1,404	0.20	7.01	--	34,160	53,370	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	854	--	--	700	< 0	--	4,800	--	--	110	--	--	--	--	6,800	--
MW-19	Closed Ash Pond 6	Downgradient	4/27/1993	MW-19-19930427	1.0	--	280	--	1,220	0.18	7.05	--	34,080	47,880	--	--	--	--	--	--	--	--	--	--	--	--	0.18	--	--	--	--	--	--	--	--	--	793	--	--	650	< 0	--	4,400	--	--	111	--	--	--	--	6,800	--
MW-19	Closed Ash Pond 6	Downgradient	12/1/1993	MW-19-19931201	1.0	--	260	--	1,156	0.20	6.83	--	33,720	49,160	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	732	--	--	600	< 0	--	4,800	--	--	101	--	--	--	--	8,000	--
MW-19	Closed Ash Pond 6	Downgradient	5/10/1994	MW-19-19940510	1.0	--	200	--	2,243	0.20	6.94	--	82,450	128,180	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	793	--	--	650	< 0	--	8,000	--	--	216	--	--	--	--	24,000	--
MW-19	Closed Ash Pond 6	Downgradient	11/16/1994	MW-19-19941116	1.0	--	200	--	1,155	0.20	6.98	--	25,590	45,940	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	793	--	--	650	< 0	--	4,000	--	--	160	--	--	--	--	7,000	--
MW-19	Closed Ash Pond 6	Downgradient	4/6/1995	MW-19-19950406	2.0	--	240	--	1,192	0.20	6.94	--	30,250	45,710	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	762.5	--	--	625	< 0	--	4,000	--	--	122	--	--	--	--	9,000	--
MW-19	Closed Ash Pond 6	Downgradient	12/12/1995	MW-19-19951212	1.43	--	260	--	1,048	0.20	6.98	--	27,010	41,820	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	701.5	--	--	575	< 0	--	5,200	--	--	150	--	--	--	--	10,000	--
MW-19	Closed Ash Pond 6	Downgradient	8/15/1996	MW-19-19960815	1.62	--	220	--	1,001	0.20	7.04	--	24,511	34,210	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	945.5	--	--	775	< 0	--	3,600	--	--	96	--	--	--	--	8,000	--
MW-19	Closed Ash Pond 6	Downgradient	4/14/1997	MW-19-19970414	2.51	--	280	--	911.2	0.20	6.98	--	23,746	41,090	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	854	--	--	700	< 0	--	3,600	--	--	90	--	--	--	--	6,000	--
MW-19	Closed Ash Pond 6	Downgradient	10/13/1997	MW-19-19971013	< 0.05	--	220	--	1,007	0.20	7.04	--	24,366	38,360	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	945.5	--	--	775	< 0	--	3,600	--	--	77	--	--	--	--	5,400	--
MW-19	Closed Ash Pond 6	Downgradient	5/10/1999	MW-19-19990510	5.1	--	70	--	925.5	0.20	7.06	--	20,743	36,410	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	854	--	--	700	< 0	--	2,800	--	--	70	--	--	--	--	5,200	--
MW-19	Closed Ash Pond 6	Downgradient	12/1/1999	MW-19-19991201	5.6	--	210	--	873	0.20	6.91	--	19,252	32,430	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	640.5	--	--	525	< 0	--	2,400	--	--	60	--	--	--	--	6,000	--
MW-19	Closed Ash Pond 6	Downgradient	5/30/2000	MW-19-20000530	6.45	--	451	--	1,956	0.30	6.87	--	28,225	30,950	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	671	--	--	550	< 0	--	2,980	--	--	71.8	--	--	--	--	5,090	--
MW-19	Closed Ash Pond 6	Downgradient	11/27/2000	MW-19-20001127	7.25	--	230	--	601.5	0.2564	6.96	--	13,598	31,870	--	--	--	--	--	--	--	--	--	--	--	--	0.2564	--	--	--	--	--	--	--	--	--	823.5	--	--	675	< 0	--	2,400	--	--	72	--	--	--	--	5,000	--
MW-19	Closed Ash Pond 6	Downgradient	8/21/2001	MW-19-20010821	5.99	--	200	--	869	0.26	7.11	--	19,006	35,660	--	--	--	--	--	--	--	--	--	--	--	--	0.26	--	--	--	--	--	--	--	--	--	701.5	--	--	575	< 0	--	2,140	--	--	68	--	--	--	--	4,800	--
MW-19	Closed Ash Pond 6	Downgradient	12/4/2001	MW-19-20011204	2.0	--	210	--	952.5	0.30	6.58	--	6,704	11,340	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	610	--	--	500	< 0	--	2,000	--	--	61	--	--	--	--	5,600	--
MW-19	Closed Ash Pond 6	Downgradient	6/11/2002	MW-19-20020611	6.49	--	200	--	760	0.40	7.01	--	16,328	28,580	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--	1,159	--	--	950	< 0	--	2,000	--	--	65	--	--	--	--	4,600	--
MW-19	Closed Ash Pond 6	Downgradient	12/17/2002	MW-19-20021217	6.3	--	250	--	745	0.20	6.98	--	15,539	128,070	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	671	--	--	550	< 0	--	1,600	--	--	60	--	--	--	--	4,000	--
MW-19	Closed Ash Pond 6	Downgradient	5/29/2003	MW-19-20030529	5.93	--	220	--	977	0.21	6.89	--	14,745	28,620	--	--	--	--	--	--	--	--	--	--	--	--	0.21	--	--	--	--	--	--	--	--	--	701.5	--	--	575	< 0	--	2,000	--	--	67	--	--	--	--	4,600	--
MW-19	Closed Ash Pond 6	Downgradient	12/15/2003	MW-19-20031215	0.89	--	220	--	1,763	0.45	6.86	--	26,266	28,170	--	--	--	--	--	--	--	--	--	--	--	--	0.45	--	--	--	--	--	--	--	--	--	2,898	--	--	2,375	< 0	--	3,200	--	--	65	--	--	--	--	1,800	--
MW-19	Closed Ash Pond 6	Downgradient	6/18/2004	MW-19-20040618	--	--	300	--	930.5	0.30	6.92	--	17,053	28,730	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	5,887	--	--	4,825	< 0	--	2,400	--	--	63	--	--	--	--	5,200	--
MW-19	Closed Ash Pond 6	Downgradient	11/30/2004	MW-19-20041130	5.2	--	260	--	952.5	0.26	6.98	--	11,112	30,210	--	--	--	--	--	--	--	--	--	--	--	--	0.26	--	--	--	--	--	--	--	--	--	1,037	--	--	850	< 0	--	2,800	--	--	60	--	--	--	--	4,800	--
MW-19	Closed Ash Pond 6	Downgradient	6/14/2005	MW-19-20050614	4.63	--	320	--	972	0.29	7.08	--	16,135	29,650	--	--	--	--	--	--	--	--	--	--	--	--	0.29	--	--	--	--	--	--	--	--	--	762.5	--	--	625	< 0	--	2,400	--	--	66	--	--	--	--	3,200	--
MW-19	Closed Ash Pond 6	Downgradient	12/12/2005	MW-19-20051212	4.52	--	468	--	1,193	0.30	7.03	--	17,202	30,250	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	945.5	--	--	775	< 0	--	2,850	--	--	62.9	--	--	--	--	5,630	--
MW-19	Closed Ash Pond 6	Downgradient	5/15/2006	MW-19-20060515	3.42	--	477	--	1,430	0.176	6.96	--	25,400	37,700	--	--	--	--	--	--	--	--	--	--	--	--	0.176	--	--	--	--	--	--	--	--	--	928.42	--	--	761	< 0	--	2,930	--	--	68.4	--	--	--	--	5,770	--
MW-19	Closed Ash Pond 6	Downgradient	4/17/2007	MW-19-20070417	2.99	--	484	--	2,310	0.754	7.02	--	26,200	40,700	--	--	--	--	--	--	--	--	--	--	--	--	0.754	--	--	--	--	--	--	--	--	--	979.66	--	--	803	< 0	--	3,030	--	--	75.5	--	--	--	--	5,890	--
MW-19	Closed Ash Pond 6	Downgradient	5/8/2008	MW-19-20080508	1.3	--	353	--	1,900	0.30	7.14	--	34,500	43,400	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	1,013	--	--	830	< 0	--	2,540	--	--	87.6	--	--	--	--	7,720	--
MW-19	Closed Ash Pond 6	Downgradient	11/18/2013	FC-19-111813	2.2	--	550	--	4,300	< 8.0	--	--	28,000	41,000	--	0.00072	--	--	--	--	--	--	--	< 0.0010	--	--	< 8.0	--	--	--	--	--	--	0.014	--	--	850	< 6.0	< 6.0	850	< 6.0	--	2,700	--	--	77	--	--	--	--	7,900	--
MW-19	Closed Ash Pond 6	Downgradient	3/11/2014	FC-19-031114	2.0	--	430	--	2,700	< 4.0	--	--	24,000	33,000	--	< 0.00040	--	--	--	--	--	--	--	< 0.0010	--	--	< 4.0	--	--	--	--	--	--	0.013	--	--	840	< 6.0	< 6.0	840	< 6.0	--	2,600	--	--	74	--	--	--	--	7,000	--
MW-19	Closed Ash Pond 6	Downgradient	9/9/2014	FCPP-19-090914	2.2	--	440	--	2,900	< 2.0	--	--	27,000	39,000	--	0.00078	--	--	--	--	--	--	--	0.0014	--	--	< 2.0	--	--	--	--	--	--	0.015	--	--	800	< 6.0	< 6.0	800	< 6.0	--	2,700	--	--	78	--	--	--	--	7,400	--
MW-19	Closed Ash Pond 6	Downgradient	12/8/2014	FCPP-MW19-12914	1.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	Closed Ash Pond 6	Downgradient	3/18/2015	FCPP-19-031815	1.9	--	440	--	1,800	< 2.0	--	--	24,000	35,000	--	< 0.0050	--	--	--	--	--	--	--	< 0.013	--	--	< 2.0	--	--	--	--	--	--	< 0.015	--	--	660	< 6.0	< 6.0	660	< 6.0	--	2,600	--	--	67	--	--	--	--	6,200	--
MW-19	Closed Ash Pond 6	Downgradient	6/30/2015	MW-19	1.8	--	400	--	1,900	< 4.0	--	7.13	23,000	36,000	--	< 0.012	--	--	--	--	--	--	--	< 0.012	--	--	< 4.0	--	--	--	--	--	--	0.022	--	--	790	< 6.0	< 6.0	790	< 6.0	--	2,700	--	--	73	--	--	--	--	6,200	--
MW-19	Closed Ash Pond 6	Downgradient	8/25/2015	FCPP-19-082515	1.9	--	430	--	2,600	< 2.0	--	7.0	25,000	38,000	--	< 0.030	--	--	--	--	--	--	--	< 0.030	--	--	< 2.0	--	--	--	--	--	--	< 0.030	--	--	780	< 6.0	< 6.0	780	< 6.0	--	2,700	--	--	84	--	--	--	--	6,700	--
MW-19	Closed Ash Pond 6	Downgradient	11/3/2015	FC MW-19-(031115)	1.8	--	480	--	2,200	< 2.0	--	7.08	24,000	18,000	< 0.0025	< 0.0010	--	0.018	--	< 0.0010	--	< 0.00050	--	< 0.0025	--	< 0.0010	< 2.0	< 0.00050	--	< 5.0	< 0.00020	--	0.0016	0.011	< 0.00050	--	770	< 6.0	< 6.0	770	< 6.0	--	2,700	--	--	68	--	--	--	--	6,300	--
MW-19	Closed Ash Pond 6	Downgradient	6/17/2016	FC-Seep-MW19-616	2.1	--	450	--	2,400	< 0.40	--	7.3	22,000	37,000	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--	820	< 6.0	< 6.0	820	< 6.0	--	2,700	--	--	79	--	--	--	--	7,300	--
MW-19	Closed Ash Pond 6	Downgradient	6/21/2020	FC-CCR-MW19-0620	--	--	--	--	--	--	6.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	--	--	--	--	--	--	0.014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	Closed Ash Pond 6	Downgradient	11/7/2020	FC-CCR-MW19-1120	1.9	--	--	--	--	--	6.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.002	--	--	--	--	--	--	0.0061	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	Closed Ash Pond 6	Downgradient	4/25/2021	FC-CCR-MW19-0421	2.0	--	--	--	--	--	7.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00052	--	--	--	--	--	--	0.0030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	Closed Ash Pond 6	Downgradient	4/25/2021	FC-CCR-FD05-0421	2.0	--	--	--	--	--	7.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0013 J	--	--	--	--	--	--	0.0040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	Closed Ash Pond 6	Downgradient	11/14/2021	FC-CCR-MW19	2.1	--	--	--	--	--	6.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0016	--	--	--	--	--	--	0.0032	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-MW19-0522	1.9	--	--	--	--	--	6.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0031	--	--	--	--	--	--	0.0034	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	Closed Ash Pond 6	Downgradient	11/11/2022	FC-CCR-MW19-1122	1.9	--	--	--	--	--	6.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0013	--	--	--	--	--	--	0.0033	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	Closed Ash Pond 6	Downgradient	11/11/2022	*DUP* FC-CCR-FD05-	1.9	--	--	--	--	--	6.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0013	--	--	--	--	--	--	0.0034	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-21	Closed Ash Pond 6	Downgradient	9/27/1987	MW-21_9/27/1987	--	0.99	--	480	2,000	< 0.5	7.37	7.4	76,000	130,000	--	--	< 0.05	--	0.88	--	--	--	< 0.005	--	< 0.005	--	< 0.5	--	0.12	--	--	< 0.0001	--	--	--	--	--	--	--	690	--	--	--	8,000	--	--	220	--	--	< 0.05	--	27,000
MW-21	Closed Ash Pond 6	Downgradient	9/18/1988	MW-21-19880918	3.0	--	420	--	992	--	7.27	--	33,755	58,160	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	480.68	--	--	394	< 0	--	3,590	--	--	123	--	--	--	--	11,200	--
MW-21	Closed Ash Pond 6	Downgradient	11/20/1988	MW-21-19881120	3.0	--	402	--	1,007	0.90	7.14	--	39,264	66,155	--	--	--	--	--	--	--	--	--	--	--	--	0.90	--	--	--	--	--	--	--	--	--	610	--	--	500	< 0	--	5,180	--	--	195	--	--	--	--	13,600	--
MW-21	Closed Ash Pond 6	Downgradient	3/6/1989	MW-21-19890306	2.0	--	399	--	2,142	0.80	7.20	--	50,033	76,561	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	--	--	--	--	--	--	--	--	1,464	--	--	1,200	< 0	--	4,220	--	--	162	--	--	--	--	15,500	--
MW-21	Closed Ash Pond 6	Downgradient	9/12/1989	MW-21-19890912	3.0	--	440	--	1,151	0.60	7.21	--	32,940	53,450	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--	671	--	--	550	< 0	--	3,170	--	--	104	--	--	--	--	11,500	--
MW-21	Closed Ash Pond 6	Downgradient	3/22/1990	MW-21-19900322	2.0	--	500	--	1,918	0.80	7.00	--	61,686	96,620	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	--	--	--	--	--	--	--	--	732	--	--	600	< 0	--	4,800	--	--	150	--	--	--	--	19,000	--
MW-21	Closed Ash Pond 6	Downgradient	9/18/1990	MW-21-19900918	2.0	--	500	--	1,847	0.20	7.13	--	54,660	84,090	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	732	--	--	600	< 0	--	4,000	--	--	140	--	--	--	--	17,500	--
MW-21	Closed Ash Pond 6	Downgradient	3/20/1991	MW-21-19910320	1.0	--	640	--	2,914	0.20	7.24	--	65,480	102,930	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	1,037	--	--	850	< 0	--	5,600	--	--	156	--	--	--	--	20,900	--
MW-21	Closed Ash Pond 6	Downgradient	9/24/1991	MW-21-19910924	1.0	--	500	--	2,018	0.20	7.27	--	58,620	87,230	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	884.5	--	--	725	< 0	--	5,200	--	--	146	--	--	--	--	19,950	--
MW-21	Closed Ash Pond 6	Downgradient	5/1/1992	MW-21-19920501	2.0	--	400	--	2,292	0.20	7.21	--	67,080	101,350	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	1,068	--	--	875	< 0	--	6,000	--	--	142	--	--	--	--	22,000	--
MW-21	Closed Ash Pond 6	Downgradient	11/2/1992	MW-21-19921102	1.0	--	400	--	2,696	0.20	7.23	--	67,700	104,070	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	1,129	--	--	925	< 0	--	5,500	--	--	172	--	--	--	--	21,500	--
MW-21	Closed Ash Pond 6	Downgradient	4/21/1993	MW-21-19930421	1.0	--	500	--	3,022	0.20	7.16	--	48,280	104,360	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	1,159	--	--	950	< 0	--	5,500	--	--	176	--	--	--	--	22,500	--
MW-21	Closed Ash Pond 6	Downgradient	12/1/1993	MW-21-19931201	1.0	--	500	--	2,222	0.20	7.06	--	58,790	93,480	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	915	--	--	750	< 0	--	5,000	--	--	192	--	--	--	--	21,000	--
MW-21	Closed Ash Pond 6	Downgradient	4/27/1994	MW-21-19940427	2.0	--	400	--	2,393	0.20	7.14	--	63,230	96,380	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	1,007	--	--	825	< 0	--	6,000	--	--	188	--	--	--	--	21,500	--
MW-21	Closed Ash Pond 6	Downgradient	9/19/1994	MW-21-19940919	1.0	--	400	--	2,316	0.20	7.02	--	62,880	97,530	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	1,098	--	--	900	< 0	--	5,500	--	--	168	--	--	--	--	21,000	--
MW-21	Closed Ash Pond 6	Downgradient	12/14/1994	MW-21-19941214	--	--	230	--	--	--	6.85	--	--	--	< 0.3	< 0.2	--	< 2	--	< 0.025	--	< 0.025	--	< 0.05	--	< 0.25	--	< 0.06	--	--	< 0.001	--	--	0.058	< 0.1	--	--	--	--	--	--	--	4,100	--	--	110	--	--	--	--	14,000	--
MW-21	Closed Ash Pond 6	Downgradient	4/5/1995	MW-21-19950405	2.0	--	400	--	1,663	0.10	6.90	--	45,380	71,370	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	--	915	--	--	750	< 0	--	4,000	--	--	140	--	--	--	--	16,000	--
MW-21	Closed Ash Pond 6	Downgradient	12/12/1995	MW-21-19951212	2.7	--	400	--	1,752	0.10	6.97	--	47,460	71,300	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	--	823.5	--	--	675	< 0	--	5,000	--	--	154	--	--	--	--	20,000	--
MW-21	Closed Ash Pond 6	Downgradient	8/15/1996	MW-21-19960815	2.49	--	400	--	1,765	0.10	6.98	--	46,169	73,760	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	--	854	--	--	700	< 0	--	4,000	--	--	118	--	--	--	--	16,000	--
MW-21	Closed Ash Pond 6	Downgradient	6/23/1997	MW-21-19970623	11	--	400	--	1,235	0.10	6.85	--	41,615	53,930	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	--	884.5	--	--	725	< 0	--	3,000	--	--	110	--	--	--	--	11,500	--
MW-21	Closed Ash Pond 6	Downgradient	10/14/1997	MW-21-19971014	< 0.05	--	400	--	1,217	0.20	6.91	--	31,146	52,640	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	762.5	--	--	625	< 0	--	3,000	--	--	104	--	--	--	--	11,500	--
MW-21	Closed Ash Pond 6	Downgradient	4/13/1998	MW-21-19980413	--	--	500	--	1,328	0.10	6.65	--	35,131	63,190	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	--	671	--	--	550	< 0	--	3,000	--	--	120	--	--	--	--	13,000	--
MW-21	Closed Ash Pond 6	Downgradient	5/10/1999	MW-21-19990510	7.4	--	40	--	1,669	0.20	7.13	--	48,635	77,990	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	945.5	--	--	775	< 0	--	4,000	--	--	118	--	--	--	--	15,500	--
MW-21	Closed Ash Pond 6	Downgradient	12/6/1999	MW-21-19991206	7.0	--	150	--	1,737	0.10	6.81	--	49,104	75,480	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	--	823.5	--	--	675	< 0	--	4,000	--	--	110	--	--	--	--	20,500	--
MW-21	Closed Ash Pond 6	Downgradient	5/24/2000	MW-21-20000524	7.17	--	467	--	2,499	0.20	6.79	--	47,049	73,200	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	823.5	--	--	675	< 0	--	4,760	--	--	125	--	--	--	--	16,300	--
MW-21	Closed Ash Pond 6	Downgradient	11/13/2000	MW-21-20001113	8.84	--	110	--	831	0.1919	7.03	--	28,681	82,430	--	--	--	--	--	--	--	--	--	--	--	--	0.1919	--	--	--	--	--	--	--	--	--	1,190	--	--	975	< 0	--	4,000	--	--	166	--	--	--	--	26,000	--
MW-21	Closed Ash Pond 6	Downgradient	8/20/2001	MW-21-20010820	16.6	--	162	--	756.5	0.24	7.00	--	18,654	46,920	--	--	--	--	--	--	--	--	--	--	--	--	0.24	--	--	--	--	--	--	--	--	--	762.5	--	--	625	< 0	--	3,850	--	--	130	--	--	--	--	18,000	--
MW-21	Closed Ash Pond 6	Downgradient	12/4/2001	MW-21-20011204	15.6	--	120	--	1,215	0.20	6.62	--	31,761	50,600	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	976	--	--	800	< 0	--	4,000	--	--	106	--	--	--	--	20,000	--
MW-21	Closed Ash Pond 6	Downgradient	6/12/2002	MW-21-20020612	12.6	--	130	--	1,350	0.30	7.00	--	35,750	56,570	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	976	--	--	800	< 0	--	3,000	--	--	106	--	--	--	--	13,500	--
MW-21	Closed Ash Pond 6	Downgradient	12/17/2002	MW-21-20021217	9.55	--	160	--	1,559	0.20	7.04	--	39,708	64,480	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	854	--	--	700	< 0	--	3,000	--	--	98	--	--	--	--	13,000	--
MW-21	Closed Ash Pond 6	Downgradient	6/2/2003	MW-21-20030602	--	--	210	--	6,733	0.30	6.88	--	39,722	68,000	--	--	--	0.011	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	0.68	--	--	823.5	--	--	675	< 0	--	3,500	--	--	138	--	--	--	--	12,000	--
MW-21	Closed Ash Pond 6	Downgradient	6/3/2003	MW-21-20030603	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.011	0.011	--	--	--	--	--	--	--	--	--	--	--	--	0.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.68	--	--
MW-21	Closed Ash Pond 6	Downgradient	9/23/2003	MW-21-20030923	8.19	--	150	--	1,407	0.37	6.33	--	38,682	66,970	--	--	--	--	--	--	--	--	--	--	--	--	0.37	--	--	--	--	--	--	--	--	--	793	--	--	650	< 0	--	4,000	--	--	120	--	--	--	--	15,500	--
MW-21	Closed Ash Pond 6	Downgradient	6/14/2004	MW-21-20040614	--	--	160	--	2,278	0.20	6.98	--	52,477	74,110	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	8,357	--	--	6,850	< 0	--	4,000	--	--	120	--	--	--	--	19,500	--
MW-21	Closed Ash Pond 6	Downgradient	11/8/2004	MW-21-20041108	8.7	--	533	--	2,120	0.20	6.69	--	51,000	74,500	--	0.0097	--	0.023	--	--	--	< 0.00005	--	0.0050	--	--	0.20	0.00060	--	--	--	--	0.00179	0.512	--	--	7,930	--	--	6,500	< 0	--	4,270	--	--	121	--	--	--	--	16,200	--
MW-21	Closed Ash Pond 6	Downgradient	5/11/2005	MW-21-20050511	7.51	--	280	--	1,948	0.30	6.93	--	45,323	69,780	--	0.02	--	0.021	--	< 0.005	--	< 0.001	--	0.020	--	0.0018	0.30	< 0.001	--	--	< 0.0002	--	--	0.57	< 0.0005	--	1,068	--	--	875	< 0	--	3,500	--	--	118	--	--	--	--	11,500	--
MW-21	Closed Ash Pond 6	Downgradient	10/31/2005	MW-21-20051031	7.81	--	480	--	1,951	0.20	6.73	--	43,537	70,840	--	0.060	--	0.025	--	--	--	--	--	--	--	0.0040	0.20	--	--	--	--	--	--	0.542	--	--	1,037	--	--	850	< 0	--	3,880	--	--	114	--	--	--	--	15,700	--
MW-21	Closed Ash Pond 6	Downgradient	5/15/2006	MW-21-20060515	7.06	--	484	--	1,920	< 0.5	6.96	--	43,400	74,500	--	0.092	--	0.020	--	< 0.001	--	< 0.006	--	< 0.004	--	0.0040	< 0.5	< 0.012	--	--	--	--	< 0.006	0.59	0.057	--	974.78	--	--	799	< 0	--	3,720	--	--	108	--	--	--	--	15,400	--
MW-21	Closed Ash Pond 6	Downgradient	10/11/2006	MW-21-20061011	7.15	--	496	--	2,090	< 5000	7.00	--	50,800	71,300	--	0.037	--	0.022	--	< 0.003	--	< 0.002	--	< 0.002	--	< 0.008	< 5000	< 0.009	--	--	--	--	< 0.012	0.526	< 0.025	--	999.18	--	--	819	< 0	--	3,640	--	--	120	--	--	--	--	15,700	--
MW-21	Closed Ash Pond 6	Downgradient	4/17/2007	MW-21-20070417	7.54	--	477	--	2,450	< 0.2	6.94	--	52,600	74,200	< 0.028	0.041	--	0.028	--	< 0.003	--	< 0.002	--	< 0.002	--	< 0.008	< 0.2	< 0.009	--	--	< 0.0022	--	< 0.012	0.549	< 0.025	--	997.96	--	--	818	< 0	--	3,440	--	--	108	--	--	--	--	14,800	--
MW-21	Closed Ash Pond 6	Downgradient	11/20/2007	MW-21-20071120	4.55	--	314	--	2,260	0.30	6.97	--	58,000	77,000	0.0060	0.015	--	0.027	--	< 0.5	--	< 0.0005	--	0.028	--	0.0027	0.30	< 0.001	--	--	--	--	< 0.005	0.421	< 0.0005	--	1,159	--	--	950	< 0	--	1,950	--	--	96	--	--	--	--	13,500	--
MW-21	Closed Ash Pond 6	Downgradient	4/30/2008	MW-21-20080430	4.4	--	325	--	2,140	0.20	6.99	--	53,700	74,100	< 0.0005	0.0144	--	0.0224	--	< 0.0005	--	< 0.0005	--	0.018	--	0.00296	0.20	0.00020	--	--	--	--	0.00060	0.42	< 0.00005	--	1,159	--	--	950	< 0	--	2,410	--	--	136	--	--	--	--	12,200	--
MW-21	Closed Ash Pond 6	Downgradient	12/4/2009	MW-21-20091204	17.2	--	355	--	1,580	0.20	6.89	--	31,000	52,000	< 0.01	0.02	--	0.040	--	< 0.01	--	0.0010	--	0.060	--	0.0020	0.20	< 0.002	--	--	< 0.0002	--	< 0.01	0.35	< 0.001	--	951.6	--	--	780	< 0	--	1,940	--	--	80.9	--	--	--	--	11,400	--
MW-21	Closed Ash Pond 6	Downgradient	12/29/2009	MW-21-20091229	10.7	--	480	--	1,920	0.30	7.15	--	31,000	66,200	< 0.005	0.016	--	0.025	--	< 0.005	--	0.0011	--	0.040	--	0.0029	0.30	< 0.001	--	--	< 0.0002	--	< 0.005	0.31	< 0.0005	--	1,159	--	--	950	20	--	3,180	--	--	97.6	--	--	--	--	12,700	--
MW-21	Closed Ash Pond 6	Downgradient	9/29/2012	MW21-092912-01	35	--	310	--	1,300	< 8.0	--	--	18,000	28,000	--	0.02	--	--	--	--	--	--	--	< 0.020	--	--	< 8.0	--	--	--	--	--	--	0.19	--	--	490	< 6.0	< 6.0	490	< 6.0	--	1,800	--	--	72	--	--	--	--	7,100	--
MW-21	Closed Ash Pond 6	Downgradient	11/20/2013	FC-21-112013	4.1	--	550	--	5,500	< 8.0	--	--	83,000	83,000	--	0.00060	--	--	--	--	--	--	--	0.0046	--	--	< 8.0	--	--	--	--	--	--	0.14	--	--	1,000	< 6.0	< 6.0	1,000	< 6.0	--	3,900	--	--	110	--	--	--	--	18,000	--
MW-21	Closed Ash Pond 6	Downgradient	3/11/2014	FC-21-031114	6.1	--	430	--	2,600	< 4.0	--	--	49,000	68,000	--	< 0.0010	--	--	--	--	--	--	--	0.014	--	--	< 4.0	--	--	--	--	--	--	0.16	--	--	920	< 6.0	< 6.0	920	< 6.0	--	3,400	--	--	110	--	--	--	--	15,000	--
MW-21	Closed Ash Pond 6	Downgradient	9/9/2014	FCPP-21-090914	26	--	430	--	1,200	< 2.0	--	--	27,000	36,000	--	0.00044	--	--	--	--	--	--	--	< 0.0010	--	--	< 2.0	--	--	--	--	--	--	0.11	--	--	560	< 6.0	< 6.0	560	< 6.0	--	1,700	--	--	84	--	--	--	--	7,200	--
MW-21	Closed Ash Pond 6	Downgradient	12/9/2014	FCPP-MW21-12914	7.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-21	Closed Ash Pond 6	Downgradient	3/18/2015	FCPP-21-031815	7.6	--	460	--	2,200	< 2.0	--	--	45,000	68,000	--	< 0.0050	--	--	--	--	--	--	--	< 0.013	--	--	< 2.0	--	--	--	--	--	--	0.12	--	--	850	< 6.0	< 6.0	850	< 6.0	--	3,200	--	--	99	--	--	--	--	15,000	--
MW-21	Closed Ash Pond 6	Downgradient	6/24/2015	MW-21	7.6	--	450	--	2,500	< 8.0	--	6.98	46,000	68,000	--	< 0.15	--	--	--	--	--	--	--	< 0.15	--	--	< 8.0	--	--	--	--	--	--	0.18	--	--	850	< 6.0	< 6.0	850	< 6.0	--	3,300	--	--	98	--	--	--	--	14,000	--
MW-21	Closed Ash Pond 6	Downgradient	8/28/2015	FCPP-21-082815	25	--	410	--	1,200	< 2.0	--	6.92	23,000	36,000	--	< 0.030	--	--	--	--	--	< 0.010	--	< 0.030	--	--	< 2.0	--	--	--	--	--	--	0.18	--	--	540	< 6.0	< 6.0	540	< 6.0	--	2,000	--	--	91	--	--	--	--	7,600	--
MW-21	Closed Ash Pond 6	Downgradient	11/4/2015	FC MW-21-(041115)	6.3	--	320	--	--	--	--	6.97	--	--	--	< 0.0020	--	--	--	--	--	< 0.0010	--	< 0.0050	--	--	--	--	--	--	--	--	--	0.14	--	--	--	--	--	--	--	--	3,300	--	--	100	--	--	--	--	16,000	--
MW-21	Closed Ash Pond 6	Downgradient	11/13/2015	FC MW-21-(131115)	2.9	--	130	--	2,000	< 4.0	--	7.04	43,000	65,000	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	< 4.0	--	--	--	--	--	--	0.16	--	--	700	< 6.0	< 6.0	700	< 6.0	--	1,600	--	--	47	--	--	--	--	6,800	--
MW-21	Closed Ash Pond 6	Downgradient	11/13/2015	*DUP* FC FD-5-(131115)	3.0	--	290	--	2,000	< 4.0	--	7.06	44,000	65,000	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	< 4.0	--	--	--	--	--	--	0.14	--	--	710	< 6.0	< 6.0	710	< 6.0	--	1,600	--	--	48	--	--	--	--	6,500	--
MW-21	Closed Ash Pond 6	Downgradient	9/15/2016	FC-Seep-MW21-916	6.0	--	350	--	4,500	< 0.40	--	6.9	40,000	61,000	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--	1,000	< 6.0	< 6.0	1,000	< 6.0	--	3,000	--	--	97	--	--	--	--	15,000	--
MW-21	Closed Ash Pond 6	Downgradient	6/21/2020	FC-CCR-MW21-0620	--	--	--	--	--	--	6.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0046	--	--	--	--	--	--	0.0053	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-21	Closed Ash Pond 6	Downgradient	11/8/2020	FC-CCR-MW21-1120	4.6	--	--	--	--	--	6.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0054	--	--	--	--	--	--	0.0035	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-21	Closed Ash Pond 6	Downgradient	4/24/2021	FC-CCR-MW21-0421	4.5	--	--	--	--	--	7.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0052	--	--	--	--	--	--	0.0029	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-21	Closed Ash Pond 6	Downgradient	11/13/2021	FC-CCR-MW21	4.8	--	--	--	--	--	6.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0059	--	--	--	--	--	--	0.0039	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-21	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-MW21-0522	4.3 J	--	--	--	--	--	6.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0055	--	--	--	--	--	--	< 0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Groundwater Sampling Results for the Additional Monitoring Wells

					Appendix III Constituents										Appendix IV Constituents																						Additional Analyses															
				Constituent:	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Iron	Magnesium	Magnesium	Manganese	Potassium	Potassium	Radium 226	Radium 228	Selenium	Sodium	Sodium
				Filtered:	N	Y	N	Y	N	N	N	N	N	N	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	Y
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
MW-21	Closed Ash Pond 6	Downgradient	5/23/2022	*DUP* FC-CCR-FD06-	0.90 J	--	--	--	--	--	6.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0048	--	--	--	--	--	--	0.0024	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-21	Closed Ash Pond 6	Downgradient	11/10/2022	FC-CCR-MW21-1122	4.4	--	--	--	--	--	6.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0048	--	--	--	--	--	--	0.0024	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-30	Closed Ash Pond 6	Downgradient	11/20/2013	FC-30-112013	47	--	480	--	770	< 4.0	--	--	9,400	16,000	--	0.0081	--	--	--	--	--	--	--	0.013	--	--	< 4.0	--	--	--	--	--	--	0.016	--	--	390	< 6.0	< 6.0	390	< 6.0	--	1,200	--	--	36	--	--	--	--	2,200	--
MW-30	Closed Ash Pond 6	Downgradient	3/11/2014	FC-30-031114	33	--	450	--	790	< 0.80	--	--	9,800	17,000	--	0.022	--	--	--	--	--	--	--	0.05	--	--	< 0.80	--	--	--	--	--	--	0.014	--	--	430	< 6.0	< 6.0	430	< 6.0	--	1,300	--	--	51	--	--	--	--	2,100	--
MW-30	Closed Ash Pond 6	Downgradient	9/8/2014	FCPP-30-090814	36	--	470	--	940	< 0.80	--	--	12,000	18,000	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	< 0.80	--	--	--	--	--	--	0.0094	--	--	470	< 6.0	< 6.0	470	< 6.0	--	1,500	--	--	33	--	--	--	--	2,700	--
MW-30	Closed Ash Pond 6	Downgradient	12/9/2014	FCPP-MW30-12914	42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-30	Closed Ash Pond 6	Downgradient	3/16/2015	FCPP-30-031615	43	--	430	--	740	< 0.80	--	--	9,800	15,000	--	0.00033	--	--	--	--	--	--	--	< 0.00050	--	--	< 0.80	--	--	--	--	--	--	0.0071	--	--	420	< 6.0	< 6.0	420	< 6.0	--	1,200	--	--	37	--	--	--	--	2,100	--
MW-30	Closed Ash Pond 6	Downgradient	6/24/2015	MW-30	38	--	390	--	800	< 0.40	--	7.15	9,600	16,000	--	< 0.030	--	--	--	--	--	--	--	< 0.030	--	--	< 0.40	--	--	--	--	--	--	< 0.030	--	--	410	< 6.0	< 6.0	410	< 6.0	--	1,300	--	--	36	--	--	--	--	2,000	--
MW-30	Closed Ash Pond 6	Downgradient	8/28/2015	FCPP-30-082815	41	--	410	--	780	< 2.0	--	7.17	9,400	15,000	--	< 0.0030	--	--	--	--	--	< 0.0020	--	< 0.0030	--	--	< 2.0	--	--	--	--	--	--	0.051	--	--	390	< 6.0	< 6.0	390	< 6.0	--	1,200	--	--	39	--	--	--	--	2,100	--
MW-30	Closed Ash Pond 6	Downgradient	11/4/2015	FC MW-30-(041115)	23	--	490	--	1,300	< 2.0	--	7.04	14,000	23,000	< 0.0025	< 0.0010	--	0.029	--	< 0.0010	--	< 0.00050	--	< 0.0025	--	0.0062	< 2.0	0.0012	--	< 5.0	< 0.00020	--	0.0075	0.015	0.00066	--	680	< 6.0	< 6.0	680	< 6.0	--	2,100	--	--	47	--	--	--	--	3,600	--
MW-30	Closed Ash Pond 6	Downgradient	6/21/2016	FC-SEEPS-MW-30-	37	--	430	--	900	0.51	--	7.33	9,300	16,000	--	< 0.005	--	--	--	--	--	--	--	0.0034	--	--	0.51	--	--	--	< 0.00020	--	--	--	--	--	420	< 6.0	< 6.0	420	< 6.0	--	1,300	--	--	38	--	--	--	--	2,100	--
MW-30	Closed Ash Pond 6	Downgradient	4/25/2021	FC-CCR-MW30-0421	28	--	--	--	--	--	7.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0025	--	--	--	--	--	--	0.0065	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-30	Closed Ash Pond 6	Downgradient	11/13/2021	FC-CCR-MW30	23	--	--	--	--	--	6.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0042	--	--	--	--	--	--	0.015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-30	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-MW30-0522	25	--	--	--	--	--	6.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0013	--	--	--	--	--	--	0.0066	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-30	Closed Ash Pond 6	Downgradient	11/10/2022	FC-CCR-MW30-1122	22	--	--	--	--	--	6.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0016	--	--	--	--	--	--	0.0056	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-30	Closed Ash Pond 6	Downgradient	11/10/2022	*DUP* FC-CCR-FD06-	22	--	--	--	--	--	6.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0015	--	--	--	--	--	--	0.006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-77S	Closed Ash Pond 6	Downgradient	6/22/2019	FC-NIT-MW77S-62219	9.6	--	440	--	2,100	1.1	--	--	13,000	23,000	0.0015	0.0053	--	0.023	--	< 0.0010	--	0.00012	--	0.0015	--	0.0065	1.1	< 0.00050	--	1.3	< 0.00020	--	0.051	< 0.0020	< 0.00010	--	580	< 6.0	< 6.0	580	< 6.0	--	1,100	--	--	60	--	--	--	--	4,400	--
MW-77S	Closed Ash Pond 6	Downgradient	4/24/2021	FC-CCR-MW77S-0421	11	--	--	--	--	--	7.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0053	--	--	--	--	--	--	0.028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-77S	Closed Ash Pond 6	Downgradient	11/13/2021	FC-CCR-MW77S	11	--	--	--	--	--	6.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0058	--	--	--	--	--	--	0.020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-77S	Closed Ash Pond 6	Downgradient	11/13/2021	FC-CCR-FD07	12	--	--	--	--	--	6.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0057	--	--	--	--	--	--	0.020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-77S	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-MW77S-0522	9.9	--	--	--	--	--	6.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0066	--	--	--	--	--	--	0.017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-77S	Closed Ash Pond 6	Downgradient	5/23/2022	*DUP* FC-CCR-FD07-	9.9	--	--	--	--	--	6.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0066	--	--	--	--	--	--	0.018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-77S	Closed Ash Pond 6	Downgradient	11/10/2022	FC-CCR-MW77S-1122	9.7	--	--	--	--	--	6.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0071	--	--	--	--	--	--	0.017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-78S	Closed Ash Pond 6	Downgradient	6/21/2020	FC-CCR-MW78S-0620	--	--	--	--	--	--	6.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0063	--	--	--	--	--	--	0.039	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-78S	Closed Ash Pond 6	Downgradient	4/24/2021	FC-CCR-MW78S-0421	1.5	--	--	--	--	--	7.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.019	--	--	--	--	--	--	0.022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-78S	Closed Ash Pond 6	Downgradient	11/14/2021	FC-CCR-MW78S	1.6	--	--	--	--	--	6.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0071	--	--	--	--	--	--	0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-78S	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-MW78S-0522	1.4	--	--	--	--	--	6.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0033	--	--	--	--	--	--	0.0092	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-78S	Closed Ash Pond 6	Downgradient	11/10/2022	FC-CCR-MW78S-1122	1.5	--	--	--	--	--	6.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0035	--	--	--	--	--	--	0.0098	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-79S	Closed Ash Pond 6	Downgradient	6/22/2019	*DUP* FC-NIT-FD01-	37	--	420	--	850	< 0.80	--	--	8,500	15,000	< 0.0010	0.0031	--	0.022	--	< 0.0010	--	0.00014	--	0.0016	--	0.0023	< 0.80	< 0.00050	--	0.9	< 0.00020	--	0.0028	< 0.00050	0.00053	--	400	< 6.0	< 6.0	400	< 6.0	--	1,000	--	--	39	--	--	--	--	2,100	--
MW-79S	Closed Ash Pond 6	Downgradient	6/22/2019	FC-NIT-MW79S-62219	38	--	440	--	850	< 0.80	--	--	8,500	15,000	< 0.0010	0.0026	--	0.022	--	< 0.0010	--	0.00016	--	0.0015	--	0.0027	< 0.80	< 0.00050	--	0.9	< 0.00020	--	0.0029	< 0.00050	0.00054	--	400	< 6.0	< 6.0	400	< 6.0	--	1,000	--	--	40	--	--	--	--	2,200	--
MW-79S	Closed Ash Pond 6	Downgradient	4/24/2021	FC-CCR-MW79S-0421	17	--	--	--	--	--	7.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0038	--	--	--	--	--	--	0.011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-79S	Closed Ash Pond 6	Downgradient	11/14/2021	FC-CCR-MW79S	16	--	--	--	--	--	6.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0036	--	--	--	--	--	--	0.0092	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-79S	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-MW79S-0522	13	--	--	--	--	--	6.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0036	--	--	--	--	--	--	0.0070	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-79S	Closed Ash Pond 6	Downgradient	11/10/2022	FC-CCR-MW79S-1122	11	--	--	--	--	--	6.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0042	--	--	--	--	--	--	0.0050	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-81	Closed Ash Pond 6	Downgradient	6/22/2019	FC-NIT-MW81-62219	21	--	410	--	780	< 0.80	--	--	8,500	15,000	< 0.0010	0.0044	--	0.021	--	< 0.0010	--	0.00018	--	0.0012	--	0.011	< 0.80	0.00099	--	0.9	< 0.00020	--	0.017	< 0.00050	< 0.00010	--	520	< 6.0	< 6.0	520	< 6.0	--	800	--	--	42	--	--	--	--	2,200	--
MW-81	Closed Ash Pond 6	Downgradient	6/21/2020	FC-CCR-MW81-0620	--	--	--	--	--	--	6.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.021	--	--	--	--	--	--	0.027	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-81	Closed Ash Pond 6	Downgradient	11/8/2020	FC-CCR-MW81-1120	38	--	--	--	--	--	6.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.018	--	--	--	--	--	--	0.0077	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-81	Closed Ash Pond 6	Downgradient	4/24/2021	FC-CCR-MW81-0421	38	--	--	--	--	--	7.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.020	--	--	--	--	--	--	0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-81	Closed Ash Pond 6	Downgradient	4/24/2021	FC-CCR-FD061-0421	40	--	--	--	--	--	7.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.020	--	--	--	--	--	--	0.0073	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-81	Closed Ash Pond 6	Downgradient	11/14/2021	FC-CCR-MW81	45	--	--	--	--	--	6.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.023	--	--	--	--	--	--	0.0035	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-81	Closed Ash Pond 6	Downgradient	11/14/2021	FC-CCR-FD05	43	--	--	--	--	--	6.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.022	--	--	--	--	--	--	0.0034	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-81	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-MW81-0522	42	--	--	--	--	--	6.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.022	--	--	--	--	--	--	0.0017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-81	Closed Ash Pond 6	Downgradient	11/10/2022	FC-CCR-MW81-1122	43	--	--	--	--	--	6.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.020	--	--	--	--	--	--	0.0025	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-81	Closed Ash Pond 6	Downgradient	11/10/2022	*DUP* FC-CCR-FD07-	42	--	--	--	--	--	6.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.023	--	--	--	--	--	--	0.0025	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-82S	Closed Ash Pond 6	Downgradient	6/22/2019	FC-NIT-MW82S-62219	55	--	440	--	620	< 0.80	--	--	5,600	10,000	< 0.0010	0.0014	--	0.019	--	< 0.0010	--	0.0015	--	0.0037	--	0.12	< 0.80	0.0034	--	0.8	< 0.00020	--	0.0036	< 0.00050	0.00038	--	260	< 6.0	< 6.0	260	< 6.0	--	610	--	--	25	--	--	--	--	1,300	--
MW-82S	Closed Ash Pond 6	Downgradient	6/21/2020	FC-CCR-MW82S-0620	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.13	--	--	--	--	--	--	0.0044	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-82S	Closed Ash Pond 6	Downgradient	11/8/2020	FC-CCR-MW82S-1120	60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	0.0028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-82S	Closed Ash Pond 6	Downgradient	11/14/2021	FC-CCR-MW82S	55	--	420	--	730	0.35 J	6.44	7.3 J	7,700	11,000	--	--	--	--	--	--	--	--	--	--	--	0.060	0.35 J	--	--	--	--	--	0.00048 J	--	--	--	200	120	< 6	320	59	--	880	--	--	27	--	--	--	--	1,600	--
MW-82S	Closed Ash Pond 6	Downgradient	5/23/2022	FC-CCR-MW82S-0522	52	--	430	--	620	< 0.8	7.10	7.40 J	6,200	10,000	--	--	--	--	--	--	--	--	--	--	--	0.063	< 0.8	--	--	--	--	--	< 0.001	--	--	--	310	< 6	< 6	310	< 6	--	780	--	--	29	--	--	--	--	1,100	--
MW-11	DFADA	Downgradient	11/18/2021	FC-CCR-MW11-1121	0.50		510		5,600	2.9	6.56	7.1 J	140,000	79,000												0.022	2.9						0.0034	--	--	--	750	< 6	< 6	750	< 6	--	10,000		--	160	--	--	--	--	14,000	--
MW-11	DFADA	Downgradient	5/26/2022	FC-CCR-MW11-0522	< 1	--	560	--	7,900	< 0.8	6.64	7.12 J	62,000	85,000	--	--	--	--	--	--	--	--	--	--	--	0.022	< 0.8	--	--	--	--	--	< 0.002	--	--	--	870	< 6	< 6	870	< 6	--	11,000	--	--	170	--	--	--	--	17,000	--
MW-11	DFADA	Downgradient	11/16/2022	FC-CCR-MW11-1122	0.52	--	510	--	3,300	< 40	6.60	6.9 J	69,000	96,000	--	--	--	--	--	--	--	--	--	--	--	0.019	< 40	--	--	--	--	--	< 0.001	--	--	--	910	< 6	< 6	910	< 6	--	9,800	--	--	170	--	--	--	--	15,000	--
EW-14	EW System	Downgradient	6/23/2020	FC-CCR-EW14-0620	19	--	470	--	360	< 0.8	--	7.6 J	4,900	7,600	< 0.001	0.00082	--	0.018	--	--	--	0.00077	--	< 0.001	--	0.023	< 0.8	< 0.0005	--	--	--	--	0.012	0.0006	0.00026	< 0.6	140	< 6	< 6	140	< 6	--	420	--	--	26	--	< 0.4	< 0.6	--	1,400	--
EW-15	EW System	Downgradient	6/23/2020	FC-CCR-EW15-0620	19	--	430	--	670	< 0.8	--	7.6 J	4,400	7,400	0.0010	0.00099	--	0.0089	--	--	--	0.00048	--	0.0032	--	0.017	< 0.8	< 0.0005	--	--	--	--	0.0039	< 0.001	0.00012	0.8	140	< 6	< 6	140	< 6	--	350	--	--	26	--	< 0.4	0.8	--	1,200	--
IP-03	SIT	Downgradient	6/29/2015	IP-3	3.8	--	380	--	1,000	< 4.0	--	7.5	13,000	21,000	--	< 0.0030	--	--	--	--	--	--	--	< 0.0030	--	--	< 4.0	--	--	--	--	--	--	0.11	--	--	580	< 6.0	< 6.0	580	< 6.0	--	1,400	--	--	60	--	--	--	--	3,500	--
IP-05	SIT	Downgradient	6/29/2015	IP-5	0.59	--	360	--	1,700	< 4.0	--	7.23	19,000	24,000	--	< 0.0030	--	--	--	--	--	--	--	0.0041	--	--	< 4.0	--	--	--	--	--	--	0.59	--	--	780	< 6.0	< 6.0	780	< 6.0	--	2,000	--	--	81	--	--	--	--	6,100	--
SUMP-1	--	--	4/23/2021	FC-CCR-SUMP1-0421	72	--	--	--	--	--	7.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.067	--	--	--	--	--	--	0.13	--	--	--	--	--	--	--	--	0.19	--	--	0.0088 J	--	--	--	--	--	--	--
SUMP-1	--	--	11/17/2021	FC-CCR-SUMP1-1121	73	--	--	--	510	--	6.06	--	--	8,000	--	--	--	--	--	--	--	--	--	--	--	0.060	--	--	--	--	--	--	0.13	--	--	--	--	--	--	--	--	0.15	560	--	0.015	--	--	--	--	--	--	--
SUMP-1	--	--	5/26/2022	FC-CCR-SUMP1-0522	68	--	--	--	560	--	6.77	--	--	8,400	--	--	--	--	--	--	--	--	--	--	--	0.059	--	--	--	--	--	--	0.11	--	--	--	--	--	--	--	--	0.14	550	--	0.011	--	--	--	--	--	--	--
SUMP-1	--	--	11/15/2022	FC-CCR-SUMP1-1122	72	--	--	--	490	--	7.57	--	--	8,400 J	--	--	--	--	--	--	--	--	--	--	--	0.056	--	--	--	--	--	--	0.19	--	--	--	--	--	--	--	--	0.11	530	--	< 0.01	--	--	--	--	--	--	--
SUMP-2	--	--	4/23/2021	FC-CCR-SUMP2-0421	35	--	--	--	--	--	8.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0024	--	--	--	--	--	--	0.0054	--	--	--	--	--	--	--	--	4.9	--	--	0.046	--	--	--	--	--	--	--
SUMP-2	--	--	11/17/2021	FC-CCR-SUMP2-1121	37	--	--	--	530	--	6.69	--	--	7,100	--	--	--	--	--	--	--	--	--	--	--	0.00018 J	--	--	--	--	--	--	0.0051	--	--	--	--	--	--	--	--	5.2	490	--	0.0047 J	--	--	--	--	--	--	--
SUMP-2	--	--	5/26/2022	FC-CCR-SUMP2-0522	34	--	--	--	920 J	--	6.99	--	--	7,600	--	--	--	--	--	--	--	--	--	--	--	0.0015	--	--	--	--	--	--	0.0042	--	--	--	--	--	--	--	--	5.4	470	--	0.15	--	--	--	--	--	--	--
SUMP-2	--	--	11/15/2022	FC-CCR-SUMP2-1122	36	--	--	--	520	--	8.00	--	--	7,600 J	--	--	--	--	--	--	--	--	--	--	--	0.0028	--	--	--	--	--	--	0.0059	--	--	--	--	--	--	--	--	9.2	470	--	0.12	--	--	--	--	--	--	--
SUMP-3	--	--	4/23/2021	FC-CCR-SUMP3-0421	37	--	--	--	--	--	8.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0025	--	--	--	--	--	--	0.017	--	--	--	--	--	--	--	--	0.21	--	--	0.64	--	--	--	--	--	--	--
SUMP-3	--	--	11/17/2021	FC-CCR-SUMP3-1121	26	--	--	--	960	--	7.01	--	--	26,000	--	--	--	--	--	--	--	--	--	--	--	0.0021	--	--	--	--	--	--	0.021	--	--	--	--	--	--	--	--	0.27	1,200	--	0.16	--	--	--	--	--	--	--
SUMP-3	--	--	5/26/2022	FC-CCR-SUMP3-0522	36	--	--	--	1,500	--	7.18	--	--	21,000	--	--	--	--	--	--	--	--	--	--	--	0.0024	--	--	--	--	--	--	0.013	--	--	--	--	--	--	--	--	0.20	1,200	--	0.75	--	--	--	--	--	--	--
SUMP-3	--	--	11/15/2022	FC-CCR-SUMP3-1122	35	--	--	--	680	--	7.33	--	--	20,000 J	--	--	--	--	--	--	--	--	--	--	--	0.0042	--	--	--	--	--	--	0.015	--	--	--	--	--	--	--	--	5.0	1,100	--	0.72	--	--	--	--	--	--	--
SUMP-7	--	--	4/23/2021	FC-CCR-SUMP7-0421	56	--	--	--	--	--	7.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.083	--	--	--	--	--	--	0.0054	--	--	--	--	--	--	--	--	0.31	--	--	0.052	--	--	--	--	--	--	--
SUMP-7	--	--	11/17/2021	FC-CCR-SUMP7-1121	58	--	--	--	710	--	6.00	--	--	9,800	--	--	--	--	--	--	--	--	--	--	--	0.082	--	--	--	--	--	--	0.0051	--	--	--	--	--	--	--	--	0.30	810	--	0.057	--	--	--	--	--	--	--
SUMP-7	--	--	5/26/2022	FC-CCR-SUMP7-0522	57	--	--	--	1,300	--	6.98	--	--	11,000	--	--	--	--	--	--	--	--	--	--	--	0.067	--	--	--	--	--	--	0.0039	--	--	--	--	--	--	--	--	0.33	840	--	0.073	--	--	--	--	--	--	--
SUMP-7	--	--	11/15/2022	FC-CCR-SUMP7-1122	57	--	--	--	650	--	7.02	--	--	9,800 J	--	--	--	--	--	--	--	--	--	--	--	0.074	--	--	--	--	--	--	0.0042	--	--	--	--	--	--	--	--	0.55	780	--	0.085	--	--	--	--	--	--	--
SUMP-8	--	--	4/23/2021	FC-CCR-SUMP8-0421	43	--	--	--	--	--	7.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.041	--	--	--	--	--	--	0.0032	--	--	--	--	--	--	--	--	0.62	--	--	< 0.01	--	--	--	--	--	--	--
SUMP-8	--	--	11/17/2021	FC-CCR-SUMP8-1121	46	--	--	--	820	--	8.50	--	--	17,000	--	--	--	--	--	--	--	--	--	--	--	0.036	--	--	--	--	--	--	0.0037	--	--	--	--	--	--	--	--	1.9	1,400	--	0.0037 J	--	--	--	--	--	--	--
SUMP-8	--	--	11/15/2022	FC-CCR-SUMP8-1122	39	--	--	--	750	--	7.12	--	--	17,000 J	--	--	--	--	--	--	--	--	--	--	--	0.027	--	--	--	--	--	--	0.0039	--	--	--	--	--	--	--	--	0.56	1,500	--	< 0.01	--	--	--	--	--	--	--
SUMP-9	--	--	4/23/2021	FC-CCR-SUMP9-0421	31	--	--	--	--	--	7.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.025	--	--	--	--	--	--	0.0023	--	--	--	--	--	--	--	--	1.8	--	--	0.0019 J	--	--	--	--	--	--	--
SUMP-9	--	--	11/17/2021	FC-CCR-SUMP9-1121	31	--	--	--	630	--	6.38	--	--	9,800	--	--	--	--	--	--	--	--	--	--	--	0.022	--	--	--	--	--	--	0.0011	--	--	--	--	--	--	--	--	0.38	840	--	< 0.01	--	--	--	--	--	--	--
SUMP-9	--	--	5/26/2022	FC-CCR-SUMP9-0522	30	--	--	--	890	--	7.10	--	--	10,000	--	--	--	--	--	--	--	--	--	--	--	0.021	--	--	--	--	--	--	< 0.002	--	--	--	--	--	--	--	--	3.2	780	--	< 0.01	--	--	--	--	--	--	--
SUMP-9	--	--	11/15/2022	FC-CCR-SUMP9-1122	28	--	--	--	580	--	7.09	--	--	10,000 J	--	--	--	--	--	--	--	--	--	--	--	0.021	--	--	--	--	--	--	0.0010	--	--	--	--	--	--	--	--	0.27	790	--	< 0.01	--	--	--	--	--	--	--
SUMP-10	--	--	4/23/2021	FC-CCR-SUMP10-0421	52	--	--	--	--	--	7.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.19	--	--	--	--	--	--	0.00085 J	--	--	--	--	--	--	--	--	2.2	--	--	0.024	--	--	--	--	--	--	--
SUMP-10	--	--	11/17/2021	FC-CCR-SUMP10-1121	55	--	--	--	520	--	6.55	--	--	9,900	--	--	--	--	--	--	--	--	--	--	--	0.19	--	--	--	--	--	--	0.00089 J	--	--	--	--	--	--	--	--	2.2	480	--	0.026	--	--	--	--	--	--	--
SUMP-10	--	--	5/26/2022	FC-CCR-SUMP10-0522	52	--	--	--	900	--	7.13	--	--	7,700	--	--	--	--	--	--	--	--	--	--	--	0.18	--	--	--	--	--	--	< 0.001	--	--	--	--	--	--	--	--	0.17	490	--	0.015	--	--	--	--	--	--	--
SUMP-10	--	--	11/15/2022	FC-CCR-SUMP10-1122	51	--	--	--	490	--	7.31	--	--	7,300 J	--	--	--	--	--	--	--	--	--	--	--	0.18	--	--	--	--	--	--	0.0013	--	--	--	--	--	--	--	--	0.61	470	--	0.019	--	--	--	--	--	--	--
SUMP-11	--	--	4/23/2021	FC-CCR-SUMP11-0421	36	--	--	--	--	--	8.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.072	--	--	--	--	--	--	0.0055	--	--	--	--	--	--	--	--	0.67	--	--	0.0011 J	--	--	--	--	--	--	--
SUMP-11	--	--	11/17/2021	FC-CCR-SUMP11-1121	53	--	--	--	540	--	6.45	--	--	10,000	--	--	--	--	--	--	--	--	--	--	--	0.18	--	--	--	--	--	--	0.0014	--	--	--	--	--	--	--	--	6.8	510	--	0.034	--	--	--	--	--	--	--
SUMP-11	--	--	5/26/2022	FC-CCR-SUMP11-0522	51	--	--	--	950	--	7.00	--	--	7,800	--	--	--	--	--	--	--	--	--	--	--	0.18	--	--	--	--	--	--	< 0.001	--	--	--	--	--	--	--	--	0.58	460	--	0.018	--	--	--	--	--	--	--
SUMP-11	--	--	11/15/2022	FC-CCR-SUMP11-1122	52	--	--	--	480	--	7.27	--	--	7,400 J	--	--	--	--	--	--	--	--	--	--	--	0.16	--	--	--	--	--	--	0.00082	--	--	--	--	--	--	--	--	0.47	510	--	0.019	--	--	--	--	--	--	--
SUMP-12	--	--	4/23/2021	FC-CCR-SUMP12-0421	30	--	--	--	--	--	7.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.052	--	--	--	--	--	--	< 0.002	--	--	--	--	--	--	--	--	0.86	--	--	< 0.01	--	--	--	--	--	--	--
SUMP-12	--	--	11/17/2021	FC-CCR-SUMP12-1121	54	--	--	--	520	--	6.40	--	--	10,000	--	--	--	--	--	--	--	--	--	--	--	0.19	--	--	--	--	--	--	0.00088 J	--	--	--	--	--	--	--	--	5.5	450	--	0.016	--	--	--	--	--	--	--
SUMP-12	--	--	5/26/2022	FC-CCR-SUMP12-0522	38	--	--	--	900	--	7.10	--	--	8,900	--	--	--	--	--	--	--	--	--	--	--	0.084	--	--	--	--	--	--	< 0.001	--	--	--	--	--	--	--	--	0.71	580	--	< 0.01	--	--	--	--	--	--	--
SUMP-12	--	--	11/15/2022	FC-CCR-SUMP12-1122	35	--	--	--	510	--	7.01	--	--	8,900 J	--	--	--	--	--	--	--	--	--	--	--	0.057	--	--	--	--	--	--	0.00088	--	--	--	--	--	--	--	--	0.25	730	--	< 0.01	--	--	--	--	--	--	--
SUMP-13	--	--	4/23/2021	FC-CCR-SUMP13-0421	33	--	--	--	--	--	7.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.041	--	--	--	--	--	--	0.0064	--	--	--	--	--	--	--	--	0.15	--	--	0.0018 J	--	--	--	--	--	--	--
SUMP-13	--	--	11/17/2021	FC-CCR-SUMP13-1121	37	--	--	--	530	--	6.66	--	--	9,300	--	--	--	--	--	--	--	--	--	--	--	0.093	--	--	--	--	--	--	0.00097 J	--	--	--	--	--	--	--	--	1.4	500	--	0.0087 J	--	--	--	--	--	--	--
SUMP-13	--	--	5/26/2022	FC-CCR-SUMP13-0522	51	--	--	--	710	--	7.21	--	--	7,100	--	--	--	--	--	--	--	--	--	--	--	0.18	--	--	--	--	--	--	< 0.001	--	--	--	--	--	--	--	--	< 0.1	470	--	< 0.01	--	--	--	--	--	--	--
SUMP-13	--	--	11/15/2022	FC-CCR-SUMP13-1122	34	--	--	--	520	--	7.18	--	--	8,500 J	--	--	--	--	--	--	--	--	--	--	--	0.057	--	--	--	--	--	--	0.0013	--	--	--	--	--	--	--	--	0.11	670	--	< 0.01	--	--	--	--	--	--	--
SUMP-14	--	--	4/23/2021	FC-CCR-SUMP14-0421	31	--	--	--	--	--	8.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.11	--	--	--	--	--	--	0.021	--	--	--	--	--	--	--	--	1.7	--	--	0.013	--	--	--	--	--	--	--
SUMP-14	--	--	11/17/2021	FC-CCR-SUMP14-1121	31	--	--	--	470	--	6.43	--	--	9,900	--	--	--	--	--	--	--	--	--	--	--	0.061	--	--	--	--	--	--	0.0032	--	--	--	--	--	--	--	--	3.1	420	--	0.010	--	--	--	--	--	--	--
SUMP-14	--	--	5/26/2022	FC-CCR-SUMP14-0522	50	--	--	--	710	--	7.05	--	--	7,800	--	--	--	--	--	--	--	--	--	--	--	0.17	--	--	--	--	--	--	0.0013	--	--	--	--	--	--	--	--	0.11	480	--	< 0.01	--	--	--	--	--	--	--
SUMP-15	--	--	4/23/2021	FC-CCR-SUMP15-0421	24	--	--	--	--	--	8.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18	--	--	--	--	--	--	0.0020	--	--	--	--	--	--	--	--	0.63	--	--	0.088	--	--	--	--	--	--	--
SUMP-15	--	--	11/17/2021	FC-CCR-SUMP15-1121	5.6	--	--	--	1,700	--	6.95	--	--	38,000 J	--	--	--	--	--	--	--	--	--	--	--	0.0015	--	--	--	--	--	--	0.0032	--	--	--	--	--	--	--	--	0.97	3,500	--	0.012	--	--	--	--	--	--	--
SUMP-15	--	--	5/26/2022	FC-CCR-SUMP15-0522	15	--	--	--	1,300	--	7.24	--	--	19,000	--	--	--	--	--	--	--	--	--	--	--	0.031	--	--	--	--	--	--	0.0019	--	--	--	--	--	--	--	--	0.27	1,500	--	< 0.01	--	--	--	--	--	--	--
SUMP-15	--	--	11/15/2022	FC-CCR-SUMP15-1122	21	--	--	--	610	--	7.39	--	--	13,000 J	--	--	--	--	--	--	--	--	--	--	--	0.084	--	--	--	--	--	--	0.013	--	--	--	--	--	--	--	--	0.76	1,100	--	< 0.01	--	--	--	--	--	--	--
SUMP-16	--	--	4/23/2021	FC-CCR-SUMP16-0421	23	--	--	--	--	--	8.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.082	--	--	--	--	--	--	0.0011 J	--	--	--	--	--	--	--	--	0.14	--	--	< 0.01	--	--	--	--	--	--	--
SUMP-16	--	--	11/17/2021	FC-CCR-SUMP16-1121	21	--	--	--	460	--	6.77	--	--	8,200	--	--	--	--	--	--	--	--	--	--	--	0.029	--	--	--	--	--	--	0.0029	--	--	--	--	--	--	--	--	21	850	--	0.65	--	--	--	--	--	--	--
SUMP-16	--	--	5/26/2022	FC-CCR-SUMP16-0522	13	--	--	--	4,000	--	7.29	--	--	27,000	--	--	--	--	--	--	--	--	--	--	--	0.025	--	--	--	--	--	--	0.0020	--	--	--	--	--	--	--	--	0.26	2,100	--	< 0.01	--	--	--	--	--	--	--
SUMP-16	--	--	5/26/2022	FC-CCR-SS10-0522	10.5	--	--	--	1,170 J	--	--	--	--	20,400	--	--	--	--	--	--	--	--	--	--	--	0.0225	--	--	--	--	--	--	< 0.01	--	--	--	--	--	--	--	--	< 3	1,940	--	< 1	--	--	--	--	--	--	--
SUMP-16	--	--	11/15/2022	FC-CCR-SUMP16-1122	10	--	--	--	630	--	7.27	--	--	12,000 J	--	--	--	--	--	--	--	--	--	--	--	0.018	--	--	--	--	--	--	0.0023	--	--	--	--	--	--	--	--	1.5	2,400	--	< 0.01	--	--	--	--	--	--	--
SUMP-17	--	--	4/23/2021	FC-CCR-SUMP17-0421	18	--	--	--	--	--	8.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0013 J	--	--	--	--	--	--	0.0015 J	--	--	--	--	--	--	--	--	0.29	--	--	0.0012 J	--	--	--	--	--	--	--
SUMP-17	--	--	11/17/2021	FC-CCR-SUMP17-1121	15	--	--	--	860	--	6.56	--	--	15,000	--	--	--	--	--	--	--	--	--	--	--	0.0011	--	--	--	--	--	--	0.0016	--	--	--	--	--	--	--	--	0.15	960	--	0.00042 J	--	--	--	--	--	--	--
SUMP-17	--	--	5/26/2022	FC-CCR-SUMP17-0522	5.8	--	--	--	3,100	--	7.40	--	--	30,000	--	--	--	--	--	--	--	--	--	--	--	< 0.002	--	--	--	--	--	--	0.0030	--	--	--	--	--	--	--	--	0.37	3,200	--	< 0.01	--	--	--	--	--	--	--
SUMP-17	--	--	11/15/2022	FC-CCR-SUMP17-1122	5.5	--	--	--	1,400	--	7.44	--	--	34,000 J	--	--	--	--	--	--	--	--	--	--	--	0.00097	--	--	--	--	--	--	0.0032	--	--	--	--	--	--	--	--	1.1	3,300	--	0.013	--	--	--	--	--	--	--
SUMP-18	--	--	4/23/2021	FC-CCR-SUMP18-0421	5.3	--	--	--	--	--	8.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0011 J	--	--	--	--	--	--	0.0033	--	--	--	--	--	--	--	--	0.55	--	--	0.032	--	--	--	--	--	--	--
SUMP-18	--	--	11/17/2021	FC-CCR-SUMP18-1121	4.6	--	--	--	1,700	--	7.07	--	--	37,000	--	--	--	--	--	--	--	--	--	--	--	0.0013	--	--	--	--	--	--	0.0036	--	--	--	--	--	--	--	--	0.31	3,200	--	0.032	--	--	--	--	--	--	--
SUMP-18	--	--	11/17/2021	FC-CCR-FD07-1121	5.4	--	--	--	1,700	--	7.07	--	--	38,000	--	--	--	--	--	--	--	--	--	--	--	0.0011	--	--	--	--	--	--	0.0032	--	--	--	--	--	--	--	--	0.33	3,500	--	0.040	--	--	--	--	--	--	--
SUMP-18	--	--	5/26/2022	FC-CCR-SUMP18-0522	5.6	--	--	--	2,600	--	7.31	--	--	31,000	--	--	--	--	--	--	--	--	--	--	--	< 0.002	--	--	--	--	--	--	0.0032	--	--	--	--	--	--	--	--	0.35	3,300	--	0.035	--	--	--	--	--	--	--
SUMP-18	--	--	11/15/2022	FC-CCR-SUMP18-1122	4.9	--	--	--	1,500	--	7.46	--	--	38,000 J	--	--	--	--	--	--	--	--	--	--	--	0.00089	--	--	--	--	--	--	0.0034	--	--	--	--	--	--	--	--	0.49	3,600	--	0.038	--	--	--	--	--	--	--

Abbreviations and Data Qualifiers:
*data appear anomalous
< = less than
degrees C = degrees Celsius
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
mg/L = milligrams per liter
pCi/L = Picocuries per liter
su = standard units

					Appendix III Constituents								Appendix IV Constituents															Additional Analyses												
				Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Magnesium	Nitrate as N	Nitrate Nitrite as N	Nitrite (as N)	Potassium	Radium 226	Radium 228	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L
				CWTP BTV (applicable to MW-62)	*2*	*536*	*631*	*1.8*	*6.5 - 6.9*	*6.5 - 6.9*	*13,000*	*20,000*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
				CWTP BTV (applicable to MW-63)	*2*	*536*	*631*	*2.3*	*6.5 - 6.9*	*6.5 - 6.9*	*13,000*	*20,000*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
				CWTP BTV (applicable to MW-64)	*0.73*	*486*	*631*	*1.6*	*7.23 - 7.66*	*7.23 - 7.66*	*13,000*	*20,000*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
				CWTP BTV (applicable to MW-65)	*0.73*	*486*	*631*	*2.1*	*7.00 -*	*7.00 -*	*13,000*	*20,000*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
MW-71	URS/CWTP	Background	3/5/2016	FC-CCR-MW-71-030516	**0.44**	**450**	**660**	< 0.050	**7.73**	--	**8,500**	**13,000**	**0.00016**	**0.016**	**0.027**	**0.0006**	**0.00019**	**0.00078**	**0.0028**	< 0.050	**0.00061**	**0.28**	< 0.00020	**0.0028**	**0.19**	**0.00031**	--	**490**	< 5.0	--	**490**	--	**1,600**	--	--	--	**23**	--	--	**880**
MW-71	URS/CWTP	Background	3/5/2016	FC-CCR-MW-71-030516	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.656**	**1.2**	--
MW-71	URS/CWTP	Background	3/5/2016	*DUP* FC-CCR-FD-2-030516	**0.46**	**480**	**670**	< 0.050	--	--	**8,500**	**13,000**	< 0.0020	**0.017**	**0.025**	< 0.0010	**0.00010**	**0.00054**	**0.0028**	< 0.050	**0.00021**	**0.28**	< 0.00020	**0.0029**	**0.20**	**0.00026**	--	**410**	< 5.0	--	**410**	--	**1,700**	--	--	--	**24**	--	--	**940**
MW-71	URS/CWTP	Background	3/5/2016	*DUP* FC-CCR-FD-2-030516	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.717**	**1.26**	--
MW-71	URS/CWTP	Background	4/26/2016	FC-CCR-MW-71-042616	**0.69**	**470**	**670**	< 2.0	**6.58**	--	**13,000**	**21,000**	< 0.0025	**0.0064**	**0.019**	< 0.0010	**0.00015**	< 0.00050	**0.0049**	< 2.0	< 0.00050	**0.45**	< 0.00020	**0.0018**	**0.31**	**0.00047**	**2.2**	--	--	--	--	--	--	--	--	--	--	**0.7**	**1.5**	--
MW-71	URS/CWTP	Background	6/6/2016	FC-CCR-MW71-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.2**	--	--	--	--	--	--	--	--	--	--	**1.1**	**2.1**	--
MW-71	URS/CWTP	Background	6/6/2016	FC-CCR-MW71-616	**0.70**	**460**	**750**	< 0.40	**6.47**	**6.87**	**13,000**	**20,000**	**0.00012**	**0.0069**	**0.020**	< 0.0010	**0.00015**	< 0.00050	**0.0041**	< 0.40	**0.00073**	**0.41**	< 0.00020	**0.0014**	**0.28**	**0.00043**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	8/21/2016	FC-CCR-MW71-816	**0.56**	**450**	**590**	< 0.80	**7.04**	**7.1**	**8,400**	**14,000**	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	8/21/2016	FC-CCR-MW71-816	--	--	--	< 0.80	--	--	--	--	**0.00022**	**0.0066**	**0.014**	< 0.0010	< 0.00020	< 0.0010	< 0.0010	< 0.80	< 0.0010	**0.36**	< 0.00020	**0.0025**	**0.26**	**0.00029**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	8/21/2016	FC-CCR-MW71-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.6**	--	--	--	--	--	--	--	--	--	--	**0.6**	**1.0**	--
MW-71	URS/CWTP	Background	8/21/2016	FC-CCR-MW101-816	--	--	--	--	--	**7.1**	--	**14,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	8/21/2016	FC-CCR-MW101-816	--	--	--	< 0.40	--	--	--	--	**0.00024**	**0.0076**	**0.013**	< 0.0010	< 0.00020	< 0.0010	< 0.0010	< 0.40	< 0.0010	**0.37**	< 0.00020	**0.0024**	**0.25**	**0.00028**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	8/21/2016	FC-CCR-MW101-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.1**	--	--	--	--	--	--	--	--	--	--	**0.3**	**0.8**	--
MW-71	URS/CWTP	Background	9/12/2016	FC-CCR-MW71-916	**0.58**	**460**	**570**	< 0.40	**6.86**	**7.2**	**9,300**	**16,000**	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	9/12/2016	FC-CCR-MW71-916	--	--	--	< 0.40	--	--	--	--	< 0.0025	< 0.0010	**0.013**	< 0.0010	< 0.00050	< 0.0025	**0.0012**	< 0.40	< 0.00050	**0.30**	< 0.00020	**0.0013**	**0.18**	< 0.00050	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	9/12/2016	FC-CCR-MW71-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.1**	--	--	--	--	--	--	--	--	--	--	**0.5**	**1.6**	--
MW-71	URS/CWTP	Background	10/20/2016	FC-CCR-MW71-1016	**0.55**	**410**	**580**	< 0.40	**6.90**	**7.3**	**9,100**	**15,000**	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	10/20/2016	FC-CCR-MW71-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.4**	--	--	--	--	--	--	--	--	--	--	**0.4**	< 0.7	--
MW-71	URS/CWTP	Background	2/2/2017	FC-CCR-MW71-117	**0.62**	**440**	**610**	< 0.40	**6.64**	**7.6**	**14,000**	**17,000**	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	**550**	< 6.0	< 6.0	**550**	< 6.0	**2,300**	--	--	--	**32**	--	--	**1,200**
MW-71	URS/CWTP	Background	2/2/2017	FC-CCR-MW71-117	--	--	--	< 0.40	--	--	--	--	< 0.0010	**0.0094**	**0.012**	< 0.0010	**0.00011**	< 0.00050	**0.0012**	< 0.40	< 0.00050	**0.39**	< 0.00020	**0.0008**	**0.34**	**0.00037**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	2/2/2017	FC-CCR-MW71-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.9**	--
MW-71	URS/CWTP	Background	4/17/2017	FC-CCR-MW71-41717	**0.52**	**400**	**550**	< 2.0	**6.81**	**7.6**	**9,400**	**15,000**	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	**420**	< 6.0	< 6.0	**420**	< 6.0	**1,800**	--	--	--	**25**	--	--	**980**
MW-71	URS/CWTP	Background	4/17/2017	FC-CCR-MW71-41717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.2**	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.2**	--
MW-71	URS/CWTP	Background	4/17/2017	FC-CCR-MW71-41717	--	--	--	< 2.0	--	--	--	--	< 0.0040	**0.0063**	**0.010**	< 0.0010	< 0.00040	< 0.0020	< 0.0020	< 2.0	< 0.0020	**0.32**	< 0.00020	< 0.0020	**0.20**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	5/2/2017	FC-CCR-MW71-5217	--	--	--	< 13	**6.86**	--	--	--	< 0.0010	**0.0072**	**0.0087**	< 0.0010	< 0.00010	< 0.0010	< 0.0010	< 13	< 0.00050	**0.34**	< 0.00020	< 0.0010	**0.27**	**0.00025**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	5/2/2017	FC-CCR-MW71-5217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.7**	--	--	--	--	--	--	--	--	--	--	**0.7**	< 0.6	--
MW-71	URS/CWTP	Background	5/29/2017	FC-CCR-MW71-52917	--	--	--	< 2.0	**6.76**	--	--	--	< 0.010	**0.0070**	**0.010**	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 2.0	< 0.0050	**0.33**	< 0.00020	< 0.0050	**0.21**	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	5/29/2017	FC-CCR-MW71-52917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-71	URS/CWTP	Background	6/22/2017	FC-CCR-MW71-62217	**0.60**	**460**	**620**	--	**6.79**	**7.2**	**4,600**	**17,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**540**	< 6.0	< 6.0	**540**	< 6.0	**2,400**	--	--	--	**31**	--	--	**1,200**
MW-71	URS/CWTP	Background	6/22/2017	FC-CCR-MW71-62217	--	--	--	< 2.0	--	--	--	--	< 0.0040	**0.0063**	**0.012**	< 0.0010	< 0.00040	< 0.0020	< 0.0020	< 2.0	< 0.0020	**0.38**	< 0.00020	< 0.0020	**0.25**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	6/22/2017	FC-CCR-MW71-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.7**	--	--	--	--	--	--	--	--	--	--	**1.2**	**1.5**	--
MW-71	URS/CWTP	Background	7/21/2017	FC-CCR-MW71-72117	**0.55**	**450**	**590**	< 2.0	**7.00**	**7.1**	**10,000**	**15,000**	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	**420**	< 6.0	< 6.0	**420**	< 6.0	**1,800**	--	--	--	**27**	--	--	**1,100**
MW-71	URS/CWTP	Background	7/21/2017	FC-CCR-MW71-72117	--	--	--	--	--	--	--	--	< 0.0040	**0.0053**	**0.0086**	< 0.0010	< 0.00040	< 0.0020	< 0.0010	--	< 0.0020	< 0.40	< 0.00020	< 0.0020	**0.24**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	7/21/2017	FC-CCR-MW71-72117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.4	--
MW-71	URS/CWTP	Background	8/10/2017	FC-CCR-MW71-81017	**0.55**	**450**	**560**	--	**6.59**	**7.4**	**10,000**	**15,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**420**	< 6.0	< 6.0	**420**	< 6.0	**2,000**	--	--	--	**27**	--	--	**1,100**
MW-71	URS/CWTP	Background	8/10/2017	FC-CCR-MW71-81017	--	--	--	< 2.0	--	--	--	--	< 0.010	**0.0048**	**0.0092**	< 0.0010	< 0.0010	< 0.0040	< 0.0020	< 2.0	< 0.0050	**0.34**	< 0.00020	< 0.0050	**0.21**	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	8/10/2017	FC-CCR-MW71-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-71	URS/CWTP	Background	8/17/2017	FC-CCR-MW71-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.0**	--	--	--	--	--	--	--	--	--	--	< 0.4	**2.0**	--
MW-71	URS/CWTP	Background	8/17/2017	FC-CCR-MW71-81717	**0.56**	**480**	**570**	< 2.0	**6.62**	**7.3**	**9,500**	**15,000**	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	**430**	< 6.0	< 6.0	**430**	< 6.0	**1,800**	--	--	--	**30**	--	--	**1,100**
MW-71	URS/CWTP	Background	9/11/2017	FC-CCR-MW71-91117	**0.55**	**470**	**570**	--	**6.56**	**7.1**	**9,900**	**15,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**420**	< 6.0	< 6.0	**420**	< 6.0	**1,800**	--	--	--	**26**	--	--	**1,100**
MW-71	URS/CWTP	Background	9/11/2017	FC-CCR-MW71-91117	--	--	--	< 2.0	--	--	--	--	< 0.0040	**0.0048**	**0.0089**	< 0.0010	< 0.00040	< 0.0040	< 0.0020	< 2.0	< 0.0020	**0.32**	< 0.00020	< 0.0020	**0.20**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	9/11/2017	FC-CCR-MW71-91117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-71	URS/CWTP	Background	10/13/2017	FC-CCR-MW71-101317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.6**	--	--	--	--	--	--	--	--	--	--	**0.8**	**0.8**	--
MW-71	URS/CWTP	Background	10/13/2017	FC-CCR-MW71-101317	**0.54**	**420**	**570**	< 2.0	**6.79**	**7.2**	**10,000**	**15,000**	< 0.010	< 0.0050	**0.012**	< 0.0010	< 0.0010	< 0.010	< 0.0050	< 2.0	< 0.0050	**0.33**	< 0.00020	< 0.0050	**0.20**	< 0.0010	--	**430**	< 6.0	< 6.0	**430**	< 6.0	**1,700**	--	--	--	**26**	--	--	**1,000**
MW-71	URS/CWTP	Background	11/30/2017	FC-CCR-MW71-113017	**0.56**	**490**	**540**	< 2.0	**6.71**	**7.1**	**10,000**	**15,000**	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	**430**	< 6.0	< 6.0	**430**	< 6.0	**1,700**	--	--	--	**29**	--	--	**1,100**
MW-71	URS/CWTP	Background	3/16/2018	FC-CCR-MW71-31618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.8**	--	--	--	--	--	--	--	--	--	--	< 1.0	**0.8**	--
MW-71	URS/CWTP	Background	6/2/2018	FC-CCR-MW-71-6218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	--	--	--	**0.4**	**1.5**	--
MW-71	URS/CWTP	Background	6/2/2018	FC-CCR-MW-71-6218	**0.55**	**420**	**520**	< 0.80	**6.85**	**7.1**	**10,000**	**15,000**	--	**0.012**	< 0.010	--	--	--	< 0.010	< 0.80	--	**0.32**	< 0.00020	< 0.010	**0.20**	< 0.0020	--	**430**	< 6.0	< 6.0	**430**	< 6.0	**2,000**	--	--	--	**27**	--	--	**1,000**
MW-71	URS/CWTP	Background	11/3/2018	FC-CCR-MW71-11318	**0.56**	**470**	**520**	< 2.0	**6.81**	**7.0**	**11,000**	**16,000**	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	11/3/2018	FC-CCR-MW71-11318	--	--	--	--	--	--	--	--	--	**0.0046**	**0.0098**	--	--	--	< 0.00050	--	--	**0.35**	--	**0.0008**	**0.27**	**0.00031**	**1.2**	--	--	--	--	--	--	--	--	--	--	**1.2**	< 0.7	--
MW-71	URS/CWTP	Background	11/3/2018	FC-CCR-MW71-11318	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	11/3/2018	*DUP* FC-CCR-FD01-11318	**0.54**	**450**	**520**	< 0.80	--	**7.2**	**11,000**	**16,000**	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	11/3/2018	*DUP* FC-CCR-FD01-11318	--	--	--	--	--	--	--	--	--	**0.0068**	**0.0095**	--	--	--	< 0.00050	--	--	**0.34**	--	**0.0007**	**0.31**	**0.00030**	**1.8**	--	--	--	--	--	--	--	--	--	--	**1.8**	< 0.7	--
MW-71	URS/CWTP	Background	3/18/2019	FC-CCR-MW71-031819	--	--	--	< 0.80	**6.68**	--	--	--	< 0.0010	**0.0069**	**0.010**	< 0.0010	< 0.00010	< 0.0010	< 0.00050	< 0.80	< 0.00050	**0.32**	< 0.00020	**0.0007**	**0.37**	**0.00031**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	3/18/2019	FC-CCR-MW71-031819	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-71	URS/CWTP	Background	5/6/2019	FC-CCR-MW71-5719	--	--	--	--	**6.66**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.0**	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.0**	--
MW-71	URS/CWTP	Background	12/2/2019	FC-CCR-MW71-120219	**0.50**	**440**	**500**	< 0.80	**6.66**	**7.2 J**	**10,000**	**16000 J**	< 0.0040	**0.0095**	**0.012**	< 0.0010	< 0.00040	< 0.0040	< 0.0020	< 0.80	< 0.0020	**0.32**	< 0.00020	< 0.0020	**0.27**	**0.00065**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	6/20/2020	FC-CCR-MW71-0620	**0.59**	**450**	**480**	< 0.8	**6.71**	**7.3 J**	**9,900**	**15,000**	< 0.002	**0.0048**	**0.0045**	--	< 0.0002	< 0.002	< 0.001	< 0.8	< 0.001	**0.75**	--	< 0.001	**0.15**	**0.00025**	< 0.8	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--
MW-71	URS/CWTP	Background	11/5/2020	FC-CCR-MW71-1120	**0.59**	**460**	**490**	< 0.4	**6.78**	**7.2 J**	**10,000**	**16,000**	< 0.002	**0.012**	**0.0092**	< 0.001	< 0.0002 U	< 0.002	**0.00026 J**	< 0.4	< 0.001	**0.35**	< 0.0002	**0.00061 J**	**0.28**	**0.00023**	< 0.8	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.8	--
MW-71	URS/CWTP	Background	4/22/2021	FC-CCR-MW71-0421	**0.73**	**510**	**560**	**3.8 NJ**	**6.83**	**7.2 J**	**14,000**	**19,000**	< 0.004	**0.0013 J**	**0.014**	< 0.001	**0.00012 J**	< 0.004	**0.0003 J**	**3.8 NJ**	< 0.002	**0.40**	< 0.0002	< 0.002	**0.36**	**0.0004**	**0.7**							--	--	--		**0.7**	<0.7	
MW-71	URS/CWTP	Background	11/12/2021	FC-CCR-MW71-1121	**0.54**	**440**	**560**	**0.14 J**	**6.74**	**7.4 J**	**12,000**	**8,000**	< 0.002	< 0.001	**0.010**	< 0.001	**0.00010 J**	<0.002	**0.00013 J**	**0.14 J**	< 0.001	**0.37**	<0.0002	<0.001	**0.24**	**0.00042**	**0.5**	--	--	--	--	--	--	--	--	--	--	**0.5**	<0.6	--
MW-71	URS/CWTP	Background	5/21/2022	FC-CCR-MW71-0522	**0.56**	**450**	**560**	< 0.8	**6.74**	**7.58 J**	**9,900**	**16,000**	< 0.002	< 0.001	**0.0094**	< 0.001	< 0.0002	< 0.002	< 0.001	< 0.8	< 0.001	**0.37**	< 0.0002	< 0.001	**0.28**	**0.00037**	**1.2**	--	--	--	--	--	--	--	--	--	--	**0.4**	**0.8**	--
MW-71	URS/CWTP	Background	5/21/2022	FC-CCR-SS04-0522	**0.78 J**	**467**	**642**	< 50 / **0.28 J**	**6.74**	**7.8 J**	**12,400**	**16,000**	< 0.02	< 0.01	**0.00887 J**	< 0.0025	< 0.0025	< 0.02	**0.00147 J**	< 50 / **0.28 J**	< 0.005	**0.367 J**	< 0.001	< 0.005	**0.233**	< 0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	8/14/2022	FC-CCR-MW71-0822	**0.44**	--	--	--	**6.80**	**7.0 J**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWTP	Background	11/13/2022	FC-CCR-MW71-1122	**0.52**	**490**	**530**	< 0.8	**6.79**	**7.1 J**	**12,000**	**19,000**	< 0.001	**0.00073**	**0.012**	< 0.001	< 0.0001	< 0.001	< 0.0005	< 0.8	< 0.0005	**0.37**	< 0.0002	**0.0005**	**0.36**	**0.00043**	**1.0**	--	--	--	--	--	--	--	--	--	--	< 0.4	**1**	--
MW-72	URS/CWTP	Background	3/7/2016	FC-CCR-MW72-030716	**0.16**	**480**	**490**	< 0.050	**7.71**	--	**12,000**	**17,000**	< 0.0020	**0.011**	**0.035**	< 0.0010	**0.000078**	**0.00044**	**0.019**	< 0.050	**0.00013**	**0.33**	< 0.00020	**0.011**	**0.13**	**0.0012**	--	**620**	< 5.0	--	**620**	--	**2,300**	--	--	--	**29**	--	--	**720**
MW-72	URS/CWTP	Background	3/7/2016	FC-CCR-MW72-030716	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.06**	**1.85**	--
MW-72	URS/CWTP	Background	4/26/2016	FC-CCR-MW-72-042616	**0.22**	**470**	**430**	< 2.0	**6.87**	--	**11,000**	**19,000**	< 0.0025	**0.0038**	**0.034**	< 0.0010	< 0.00010	**0.0028**	**0.0087**	< 2.0	**0.0011**	**0.40**	< 0.00020	**0.0093**	**0.16**	**0.00081**	< 0.8	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--
MW-72	URS/CWTP	Background	6/6/2016	FC-CCR-MW72-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	--	--	--	**0.5**	**0.8**	--
MW-72	URS/CWTP	Background	6/6/2016	FC-CCR-MW72-616	**0.25**	**570**	**530**	< 0.40	**6.56**	**6.99**	**4,500**	**9,500**	**0.00027**	**0.0084**	**0.051**	< 0.0010	< 0.00020	**0.00060**	**0.0029**	< 0.40	< 0.0010	< 0.20	< 0.00020	**0.0052**	**0.39**	**0.00058**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	8/21/2016	FC-CCR-MW72-816	**0.23**	**450**	**440**	< 0.40	**6.72**	**7.0**	**10,000**	**17,000**	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	8/21/2016	FC-CCR-MW72-816	--	--	--	< 0.40	--	--	--	--	**0.00026**	**0.0047**	**0.016**	< 0.0010	< 0.00020	< 0.0010	**0.0034**	< 0.40	< 0.0010	**0.42**	< 0.00020	**0.0061**	**0.18**	**0.0011**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	8/21/2016	FC-CCR-MW72-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.2**	--	--	--	--	--	--	--	--	--	--	**0.5**	**2.7**	--
MW-72	URS/CWTP	Background	9/13/2016	FC-CCR-MW72-916	**0.24**	**470**	**450**	< 0.40	**6.17**	**7.1**	**10,000**	**17,000**	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	9/13/2016	FC-CCR-MW72-916	--	--	--	< 0.40	--	--	--	--	< 0.0025	< 0.0010	**0.019**	< 0.0010	< 0.00050	< 0.0025	**0.0073**	< 0.40	< 0.00050	**0.35**	< 0.00020	**0.011**	< 0.0030	**0.00056**	--	--	--	--	--	--	--	--	--	--	--	--	--	--

				Appendix III Constituents								Appendix IV Constituents																Additional Analyses												
			Constituent	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity Total CaCO3	Alkalinity Phenolphthalein as CaCO3	Magnesium	Nitrate as N	Nitrate Nitrite as N	Nitrite (as N)	Potassium	Radium 226	Radium 228	Sodium
			Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	pCi/L	mg/L
			CWTP BTV (applicable to MW-42)	2	536	637	1.8	6.5 - 6.9	6.5 - 6.9	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			CWTP BTV (applicable to MW-43)	2	536	637	2.3	6.5 - 6.9	6.5 - 6.9	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			CWTP BTV (applicable to MW-64)	0.73	486	637	1.6	7.23 - 7.66	7.23 - 7.66	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			CWTP BTV (applicable to MW-65)	0.73	486	637	2.1	7.00 -	7.00 -	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	9/13/2016 FC-CCR-MW72-9116	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.9	--	--	--	--	--	--	--	--	--	--	0.5	3.4	--
MW-72	URS/CWTP	Background	10/20/2016 FC-CCR-MW72-1016	0.23	400	480	< 0.40	6.84	7.1	11,000	17,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	10/20/2016 FC-CCR-MW72-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.2	--	--	--	--	--	--	--	--	--	--	0.7	3.5	--
MW-72	URS/CWTP	Background	2/2/2017 FC-CCR-MW72-117	0.23	420	430	< 0.40	6.63	7.5	11,000	16,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	560	< 6.0	< 6.0	560	< 6.0	2,200	--	--	--	27	--	--	700
MW-72	URS/CWTP	Background	2/2/2017 FC-CCR-MW72-117	--	--	--	< 0.40	--	--	--	--	< 0.0010	0.0041	0.0093	< 0.0010	< 0.00010	< 0.0010	0.0025	< 0.40	< 0.00050	0.39	< 0.00020	0.0009	0.13	0.00094	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	2/2/2017 FC-CCR-MW72-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.0	--	--	--	--	--	--	--	--	--	--	0.7	3.3	--
MW-72	URS/CWTP	Background	2/2/2017 FC-CCR-MW101-117	0.21	430	450	< 0.40	--	7.5	11,000	16,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	560	< 6.0	< 6.0	560	< 6.0	2,300	--	--	--	28	--	--	710
MW-72	URS/CWTP	Background	2/2/2017 FC-CCR-MW101-117	--	--	--	< 0.40	--	--	--	--	< 0.0020	0.0027	0.0084	< 0.0010	< 0.00020	< 0.0010	0.0025	< 0.40	< 0.0010	0.39	< 0.00020	0.0010	0.12	0.00096	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	2/2/2017 FC-CCR-MW101-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6	--	--	--	--	--	--	--	--	--	--	0.6	0.6	--
MW-72	URS/CWTP	Background	4/17/2017 FC-CCR-MW-72-4717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.5	--	--	--	--	--	--	--	--	--	--	0.6	2.9	--
MW-72	URS/CWTP	Background	4/17/2017 FC-CCR-MW72-4717	0.20	440	450	< 2.0	6.73	7.4	610	17,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	2,400	--	--	--	29	--	--	760
MW-72	URS/CWTP	Background	4/17/2017 FC-CCR-MW72-4717	--	--	--	< 2.0	--	--	--	--	< 0.0040	0.0028	0.0096	< 0.0010	< 0.00040	< 0.0020	0.0024	< 2.0	< 0.0020	0.35	< 0.00020	< 0.0020	0.10	0.00096	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	5/2/2017 FC-CCR-MW-72-5217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.8	--	--	--	--	--	--	--	--	--	--	0.7	3.1	--
MW-72	URS/CWTP	Background	5/2/2017 FC-CCR-MW72-5217	--	--	--	< 13	6.83	--	--	--	< 0.0010	0.0030	0.0079	< 0.0010	< 0.00010	< 0.0010	0.0024	< 13	< 0.00050	0.38	< 0.00020	< 0.0010	0.12	0.00091	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	5/29/2017 FC-CCR-MW72-5297	--	--	--	< 2.0	6.68	--	--	--	< 0.010	< 0.0050	0.0093	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 2.0	< 0.0050	0.37	< 0.00020	< 0.0050	0.11	0.0011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	6/27/2017 FC-CCR-MW72-6277	0.21	450	450	--	6.65	7.1	11,000	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	2,400	--	--	--	29	--	--	760
MW-72	URS/CWTP	Background	6/27/2017 FC-CCR-MW72-6277	--	--	--	< 2.0	--	--	--	--	< 0.0040	0.0071	0.0077	< 0.0010	< 0.00040	< 0.0020	0.0025	< 2.0	< 0.0020	0.38	< 0.00020	< 0.0020	0.10	0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	6/27/2017 FC-CCR-MW72-6277	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.8	--	--	--	--	--	--	--	--	--	--	0.6	3.2	--
MW-72	URS/CWTP	Background	6/22/2017 *DUP FC-CCR-FD02-6227	0.22	440	450	--	--	7.0	11,000	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	610	< 6.0	< 6.0	610	< 6.0	2,500	--	--	--	30	--	--	770
MW-72	URS/CWTP	Background	6/22/2017 *DUP FC-CCR-FD02-6227	--	--	--	< 2.0	--	--	--	--	< 0.0040	< 0.0020	0.0086	< 0.0010	< 0.00040	< 0.0020	0.0025	< 2.0	< 0.0020	0.40	0.00020	< 0.0020	0.099	0.0011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	6/22/2017 *DUP FC-CCR-FD02-6227	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.0	--	--	--	--	--	--	--	--	--	--	0.5	2.5	--
MW-72	URS/CWTP	Background	7/21/2017 FC-CCR-MW72-7217	0.23	450	460	< 2.0	6.93	7.1	11,000	17,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	2,300	--	--	--	29	--	--	760
MW-72	URS/CWTP	Background	7/21/2017 FC-CCR-MW72-7217	--	--	--	--	--	--	--	--	< 0.0040	0.0026	0.0073	< 0.0010	< 0.00040	< 0.0020	0.0024	--	< 0.0020	< 0.80	< 0.00020	< 0.0020	0.13	0.00089	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	7/21/2017 FC-CCR-MW72-7217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--	--	--	< 0.5	1.7	--
MW-72	URS/CWTP	Background	8/10/2017 FC-CCR-MW72-8107	0.21	450	460	--	6.47	7.3	11,000	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	2,500	--	--	--	30	--	--	780
MW-72	URS/CWTP	Background	8/10/2017 FC-CCR-MW72-8107	--	--	--	< 2.0	--	--	--	--	< 0.0010	0.0040	0.0075	< 0.0010	< 0.00010	< 0.0010	0.0023	< 2.0	< 0.00050	0.41	< 0.00020	0.0009	0.14	0.00091	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	8/10/2017 FC-CCR-MW72-8107	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--	--	--	--	--	--	< 0.4	2.8	--
MW-72	URS/CWTP	Background	8/10/2017 *DUP FC-CCR-FD02-8107	0.25	460	460	--	--	7.2	12,000	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	610	< 6.0	< 6.0	610	< 6.0	2,600	--	--	--	30	--	--	800
MW-72	URS/CWTP	Background	8/10/2017 *DUP FC-CCR-FD02-8107	--	--	--	< 2.0	--	--	--	--	< 0.010	0.0028	0.0089	< 0.0010	< 0.0010	< 0.0040	0.0025	< 2.0	< 0.0050	0.42	< 0.00020	< 0.0050	0.10	0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	8/10/2017 *DUP FC-CCR-FD02-8107	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--	--	--	< 0.4	1.7	--
MW-72	URS/CWTP	Background	8/17/2017 FC-CCR-MW72-8177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	--	--	--	< 0.4	2.1	--
MW-72	URS/CWTP	Background	8/17/2017 FC-CCR-MW72-8177	0.26	490	450	< 2.0	6.18	7.1	11,000	17,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	610	< 6.0	< 6.0	610	< 6.0	2,300	--	--	--	33	--	--	790
MW-72	URS/CWTP	Background	8/17/2017 *DUP FC-CCR-FD02-8177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.0	--	--	--	--	--	--	--	--	--	--	0.9	2.1	--
MW-72	URS/CWTP	Background	8/17/2017 *DUP FC-CCR-FD02-8177	0.27	480	460	< 2.0	--	7.2	12,000	17,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	2,400	--	--	--	32	--	--	770
MW-72	URS/CWTP	Background	9/10/2017 FC-CCR-MW72-9107	0.21	470	460	--	6.61	7.0	11,000	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	610	< 6.0	< 6.0	610	< 6.0	2,300	--	--	--	28	--	--	730
MW-72	URS/CWTP	Background	9/10/2017 FC-CCR-MW72-9107	--	--	--	< 2.0	--	--	--	--	< 0.0040	0.0029	0.0086	< 0.0010	< 0.00040	< 0.0040	0.0023	< 2.0	< 0.0020	0.37	< 0.00020	< 0.0020	0.10	0.00095	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	9/10/2017 FC-CCR-MW72-9107	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--	--	--	--	< 0.4	2.3	--
MW-72	URS/CWTP	Background	10/13/2017 FC-CCR-MW72-10137	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.1	--	--	--	--	--	--	--	--	--	--	0.7	2.4	--
MW-72	URS/CWTP	Background	10/13/2017 FC-CCR-MW72-10137	0.22	430	450	< 2.0	6.65	7.2	11,000	16,000	< 0.010	0.0052	0.011	< 0.0010	< 0.0010	< 0.010	< 0.0050	< 2.0	< 0.0050	0.38	< 0.00020	< 0.0050	0.11	0.0010	--	610	< 6.0	< 6.0	610	< 6.0	2,300	--	--	--	28	--	--	740
MW-72	URS/CWTP	Background	11/29/2017 FC-CCR-MW72-11297	0.22	500	450	< 2.0	6.63	7.2	10,000	16,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	590	< 6.0	< 6.0	590	< 6.0	2,300	--	--	--	28	--	--	760
MW-72	URS/CWTP	Background	1/16/2018 FC-CCR-MW72-1618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	--	--	--	< 1.0	1.9	--
MW-72	URS/CWTP	Background	6/7/2018 FC-CCR-MW72-6718	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--	--	--	--	--	--	< 0.4	2.8	--
MW-72	URS/CWTP	Background	6/7/2018 FC-CCR-MW72-6718	0.21	450	450	< 0.80	6.75	7.0	11,000	16,000	--	< 0.010	< 0.010	--	--	--	< 0.010	< 0.80	--	0.35	< 0.00020	< 0.010	0.10	< 0.0020	--	610	< 6.0	< 6.0	610	< 6.0	2,300	--	--	--	26	--	--	670
MW-72	URS/CWTP	Background	11/12/2018 FC-CCR-MW72-11318	0.22	470	450	< 2.0	6.75	7.0	11,000	16,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	11/12/2018 FC-CCR-MW72-11318	--	--	--	--	--	--	--	--	--	0.0031	0.0075	--	--	--	0.0020	--	--	0.37	--	0.0008	0.13	0.00088	1.7	--	--	--	--	--	--	--	--	--	--	0.7	1.0	--
MW-72	URS/CWTP	Background	11/12/2018 FC-CCR-MW72-11318	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	11/12/2018 *DUP FC-CCR-FD02-11318	0.21	460	450	< 2.0	--	7.1	11,000	16,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	11/12/2018 *DUP FC-CCR-FD02-11318	--	--	--	--	--	--	--	--	--	0.0026	0.0075	--	--	--	0.0020	--	--	0.37	--	0.0008	0.15	0.00087	2.0	--	--	--	--	--	--	--	--	--	--	0.5	1.5	--
MW-72	URS/CWTP	Background	3/17/2019 FC-CCR-MW72-03719	--	--	--	< 0.80	6.68	--	--	--	< 0.0010	0.0034	0.0077	< 0.0010	< 0.00010	< 0.0010	0.0022	< 0.80	< 0.00050	0.36	< 0.00020	0.001	0.13	0.00095	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	3/17/2019 FC-CCR-MW72-03719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.4	--	--	--	--	--	--	--	--	--	--	< 0.4	2.4	--
MW-72	URS/CWTP	Background	5/7/2019 FC-CCR-MW72-5719	--	--	--	--	6.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.4	--	--	--	--	--	--	--	--	--	--	< 0.4	3.4	--
MW-72	URS/CWTP	Background	12/2/2019 FC-CCR-MW72-120219	0.19	430	430	< 0.80	6.62	7.1 J	11,000	16000 J	< 0.0020	0.0031	0.0081	< 0.0010	< 0.00020	< 0.0040	0.0021	< 0.80	< 0.0010	0.36	< 0.00020	0.0014	0.11	0.0011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	6/19/2020 FC-CCR-MW72-0620	0.23	440	400	< 0.8	6.65	7.2 J	11,000	16,000	< 0.004	0.0044	0.020	--	< 0.0004	< 0.004	0.0027	< 0.8	< 0.001	0.89	--	< 0.002	0.11	0.0011	3.5	--	--	--	--	--	--	--	--	--	--	--	0.9	2.6	--
MW-72	URS/CWTP	Background	11/5/2020 FC-CCR-MW72-1120	0.24	470	430	< 0.4	6.70	7.1 J	10,000	16,000	< 0.001 U	0.0053	0.018	< 0.001	< 0.0001 U	0.0071 J	0.0013	< 0.4	< 0.0005	0.38	< 0.0002	0.0020	0.11	< 0.0011 U	2.4	--	--	--	--	--	--	--	--	--	--	0.7	1.7	--
MW-72	URS/CWTP	Background	4/22/2021 FC-CCR-MW72-0421	0.25	480	400	< 0.8	6.89	7.2 J	10,000	16,000	< 0.004	0.0026	0.0086	< 0.001	0.00012 J	< 0.004	0.0029	< 0.8	< 0.002	0.37	< 0.0002	0.0011 J	0.11	0.0010	2.2	--	--	--	--	--	--	--	--	--	--	0.7	1.5	--
MW-72	URS/CWTP	Background	11/10/2021 FC-CCR-MW72-1121	0.22	440	450	< 0.8	6.64	7.1 J	11,000	14,000	< 0.002	< 0.001	0.0085	< 0.001	0.00006 J	<0.002	0.0026	< 0.8	< 0.001	0.38	<0.0002	0.0006	0.087	0.0010	3.7	--	--	--	--	--	--	--	--	--	--	1.3	2.4	--
MW-72	URS/CWTP	Background	5/22/2022 FC-CCR-MW72-0522	0.22	440	410	< 0.8	6.63	7.50 J	9,600	13,000	< 0.002	< 0.001	0.0073	< 0.001	< 0.0002	< 0.002	0.0025	< 0.8	< 0.001	0.37	< 0.0002	< 0.001	0.095	0.00094	1.2	--	--	--	--	--	--	--	--	--	--	<0.4	1.2	--
MW-72	URS/CWTP	Background	8/13/2022 FC-CCR-MW72-0822	0.14	--	--	--	6.81	7.0 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWTP	Background	11/13/2022 FC-CCR-MW72-1122	0.15	470	400	< 0.8	6.81	7.2 J	10,000	15,000	< 0.001	0.00070	0.0086	< 0.001	< 0.0001	< 0.001	0.0026	< 0.8	< 0.0005	0.34	< 0.0002	0.0008	0.12	0.0010	1.9	--	--	--	--	--	--	--	--	--	--	< 0.4	1.9	--
MW-73	URS/CWTP	Background	2/2/2017 FC-CCR-MW73-117	1.6	480	380	< 0.40	6.65	7.5	5,400	8,800	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	560	< 6.0	< 6.0	560	< 6.0	580	--	--	--	28	--	--	1,100
MW-73	URS/CWTP	Background	2/2/2017 FC-CCR-MW73-117	--	--	--	< 0.40	--	--	--	--	< 0.0010	0.0015	0.043	< 0.0010	0.00017	< 0.0010	0.0071	< 0.40	< 0.00050	0.21	< 0.00020	0.0086	0.029	0.00020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	2/2/2017 FC-CCR-MW73-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.2	--	--	--	--	--	--	--	--	--	--	1.0	2.2	--
MW-73	URS/CWTP	Background	4/18/2017 FC-CCR-MW73-4187	1.6	450	340	< 0.80	6.70	7.3	5,700	9,200	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	650	< 6.0	< 6.0	650	< 6.0	630	--	--	--	29	--	--	1,200
MW-73	URS/CWTP	Background	4/18/2017 FC-CCR-MW73-4187	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	--	--	0.7	1.1	--
MW-73	URS/CWTP	Background	4/18/2017 FC-CCR-MW73-4187	--	--	--	< 0.80	--	--	--	--	< 0.0040	< 0.0020	0.027	< 0.0010	< 0.00040	< 0.0020	0.0058	< 0.80	< 0.0020	0.22	< 0.00020	0.0041	0.019	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	5/7/2017 FC-CCR-MW73-5717	--	--	--	< 5.0	6.78	--	--	--	< 0.0010	< 0.0010	0.026	< 0.0010	0.00021	< 0.0010	0.0067	< 5.0	< 0.00050	0.24	< 0.00020	0.0037	0.015	0.00024	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	5/7/2017 FC-CCR-MW73-5717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--	--	--	--	0.5	1.8	--
MW-73	URS/CWTP	Background	5/29/2017 FC-CCR-MW73-5297	--	--	--	< 0.80	6.78	--	--	--	< 0.010	< 0.0050	0.038	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.80	< 0.0050	< 0.20	< 0.00020	< 0.0050	0.043	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	5/29/2017 FC-CCR-MW73-5297	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-73	URS/CWTP	Background	6/22/2017 FC-CCR-MW73-6227	1.6	490	450	--	6.74	7.0	6,700	11,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	780	< 6.0	< 6.0	780	< 6.0	750	--	--	--	34	--	--	1,600
MW-73	URS/CWTP	Background	6/22/2017 FC-CCR-MW73-6227	--	--	--	< 0.80	--	--	--	--	< 0.0040	< 0.0020	0.029	< 0.0010	< 0.00040	< 0.0020	0.0066	< 0.80	< 0.0020	0.25	< 0.00020	< 0.0020	0.019	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	6/22/2017 FC-CCR-MW73-6217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.1	--	--	--	--	--	--	--	--	--	--	1.5	1.6	--
MW-73	URS/CWTP	Background	7/22/2017 FC-CCR-MW73-7227	1.6	490	520	< 0.80	6.83	7.1	8,000	12,000	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	840	--	--	--	37	--	--	1,800
MW-73	URS/CWTP	Background	7/22/2017 FC-CCR-MW73-7227	--	--	--	< 2.0	--	--	--	--	< 0.0040	< 0.0020	0.024	< 0.0010	< 0.00040	< 0.0020	0.0067	< 2.0	< 0.0020	< 0.40	< 0.00020	0.0023	0.016	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	7/22/2017 FC-CCR-MW73-7227	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	--	--	--	< 0.5	2.0	--

					Appendix III Constituents								Appendix IV Constituents															Additional Analyses													
				Constituent	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity Phenolphthalein as CaCO3	Magnesium	Nitrate as N	Nitrate Nitrite as N	Nitrite (as N)	Potassium	Radium 226	Radium 228	Sodium
				Filtered	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	pCi/L	mg/L
				CWTP BTV (applicable to MW-62)	2	536	631	1.8	6.5 - 6.9	6.5 - 6.9	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				CWTP BTV (applicable to MW-63)	2	536	631	2.3	6.5 - 6.9	6.5 - 6.9	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				CWTP BTV (applicable to MW-64)	0.73	486	631	1.6	7.23 - 7.66	7.23 - 7.66	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				CWTP BTV (applicable to MW-65)	0.73	486	631	2.1	7.00 -	7.00 -	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	7/22/2017	*DUP* FC-CCR-FD02-72217	1.6	490	500	< 2.0	--	7.1	7,800	12,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	850	--	--	--	37	--	--	1,800
MW-73	URS/CWTP	Background	7/22/2017	*DUP* FC-CCR-FD02-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	--	0.7	1.1	--
MW-73	URS/CWTP	Background	8/10/2017	FC-CCR-MW73-81017	1.7	500	540	--	6.45	7.4	7,700	12,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	820	--	--	--	36	--	--	1,800
MW-73	URS/CWTP	Background	8/10/2017	FC-CCR-MW73-81017	--	--	--	< 0.80	--	--	--	--	< 0.010	< 0.0020	0.024	< 0.0010	< 0.0010	0.0041	0.0065	< 0.80	< 0.0050	0.27	< 0.00020	< 0.0050	0.017	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	8/10/2017	FC-CCR-MW73-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--	< 0.4	1.1	--
MW-73	URS/CWTP	Background	8/17/2017	FC-CCR-MW73-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	--	< 0.4	1.5	--
MW-73	URS/CWTP	Background	8/17/2017	FC-CCR-MW73-81717	1.7	540	550	< 0.80	6.50	7.0	7,600	11,000	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	860	--	--	--	41	--	--	1,800
MW-73	URS/CWTP	Background	9/10/2017	FC-CCR-MW73-91017	1.9	520	470	--	6.62	7.0	6,000	9,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	730	< 6.0	< 6.0	730	< 6.0	680	--	--	--	30	--	--	1,300
MW-73	URS/CWTP	Background	9/10/2017	FC-CCR-MW73-91017	--	--	--	< 0.80	--	--	--	--	< 0.0040	0.0020	0.023	< 0.0010	< 0.00040	< 0.0040	0.0048	< 0.80	< 0.0020	0.22	< 0.00020	0.0024	0.033	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	9/10/2017	FC-CCR-MW73-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5	--	--	--	--	--	--	--	--	--	1.2	1.3	--
MW-73	URS/CWTP	Background	10/12/2017	FC-CCR-MW73-101217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9	--	--	--	--	--	--	--	--	--	< 0.3	0.9	--
MW-73	URS/CWTP	Background	10/12/2017	FC-CCR-MW73-101217	2.0	510	310	< 0.80	6.64	7.3	3,900	6,600	< 0.010	< 0.0050	0.024	< 0.0010	< 0.0010	< 0.010	< 0.0050	< 0.80	< 0.0050	< 0.20	< 0.00020	< 0.0050	0.048	< 0.0010	--	480	< 6.0	< 6.0	480	< 6.0	440	--	--	--	20	--	--	600
MW-73	URS/CWTP	Background	10/12/2017	*DUP* FC-CCR-FD01-101217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	--	--	0.7	1.2	--
MW-73	URS/CWTP	Background	10/12/2017	*DUP* FC-CCR-FD01-101217	2.0	510	300	< 0.80	--	7.3	3,700	6,600	< 0.010	< 0.0050	0.024	< 0.0010	< 0.0010	< 0.010	< 0.0050	< 0.80	< 0.0050	< 0.20	< 0.00020	< 0.0050	0.047	< 0.0010	--	480	< 6.0	< 6.0	480	< 6.0	430	--	--	--	20	--	--	590
MW-73	URS/CWTP	Background	11/29/2017	FC-CCR-MW73-112917	1.8	550	420	< 0.80	6.61	7.3	5,600	8,900	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	650	< 6.0	< 6.0	650	< 6.0	640	--	--	--	32	--	--	1,200
MW-73	URS/CWTP	Background	3/18/2018	FC-CCR-MW73-31818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6	--	--	--	--	--	--	--	--	--	< 1.0	2.6	--
MW-73	URS/CWTP	Background	3/18/2018	FC-CCR-MW73-31818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--	--	--	--	--	0.8	2.0	--
MW-73	URS/CWTP	Background	11/3/2018	FC-CCR-MW73-11318	1.6	460	550	< 0.80	6.69	6.9	7,100	12,000	--	< 0.010	0.023	--	--	--	< 0.010	< 0.80	--	0.36	< 0.00020	< 0.010	0.011	< 0.0020	--	800	< 6.0	< 6.0	800	< 6.0	710	--	--	--	34	--	--	1,600
MW-73	URS/CWTP	Background	11/3/2018	FC-CCR-MW73-11318	1.7	480	660	< 0.80	6.64	7.0	7,500	12,000	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	11/3/2018	FC-CCR-MW73-11318	--	--	--	--	--	--	--	--	--	< 0.0050	0.022	--	--	--	0.0078	--	--	0.31	--	0.0026	0.0062	0.00020	2.9	--	--	--	--	--	--	--	--	--	1.5	1.4	--
MW-73	URS/CWTP	Background	3/18/2019	FC-CCR-MW73-031819	--	--	--	< 0.80	6.95	--	--	--	< 0.0010	< 0.00050	0.021	< 0.0010	0.00013	< 0.0010	0.0038	< 0.80	< 0.00050	0.26	< 0.00020	0.0017	0.0069	0.00025	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	3/18/2019	FC-CCR-MW73-031819	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	--	--	< 0.4	1.6	--
MW-73	URS/CWTP	Background	5/6/2019	FC-CCR-MW73-5619	--	--	--	--	6.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--	--	< 0.4	1.7	--
MW-73	URS/CWTP	Background	12/2/2019	FC-CCR-MW73-120219	1.6	460	520	< 0.80	6.49	7.1 J	7,100	11,000 J	< 0.0020	< 0.0010	0.020	< 0.0010	< 0.00020	< 0.0040	0.0040	< 0.80	< 0.0030	0.23	< 0.00020	0.0020	0.0086	0.00022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	12/2/2019	*DUP* FC-CCR-FD01-120219	1.7	480	500	< 0.80	--	7.0 J	6,900	11,000 J	< 0.0020	< 0.0010	0.020	< 0.0010	< 0.00020	< 0.0040	0.0039	< 0.80	< 0.0030	0.23	< 0.00020	0.0021	0.0094	0.00021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	6/20/2020	FC-CCR-MW73-0620	1.7	450	520	< 0.8	6.53	7.2 J	7,200	12,000	< 0.004	< 0.002	0.033	--	< 0.0004	< 0.004	0.0062	< 0.8	< 0.002	0.65	--	0.0035	0.0077	< 0.0004	3.4	--	--	--	--	--	--	--	--	--	--	1.5	1.9	--
MW-73	URS/CWTP	Background	11/5/2020	FC-CCR-MW73-1120	1.6	480	530	0.063 J	6.65	7.0 J	7,100	12,000	< 0.002 U	0.0012	0.020	< 0.001	< 0.0002 U	0.00073 J	0.0067	0.063 J	< 0.001	0.29	< 0.0002	0.0016	0.0099	0.00022	2.8	--	--	--	--	--	--	--	--	--	--	0.6	2.2	--
MW-73	URS/CWTP	Background	4/22/2021	FC-CCR-MW73-0421	1.6	530	380	< 0.4	6.76	7.1 J	5,700	9,700	< 0.004	< 0.002	0.021	< 0.001	0.00016 J	< 0.004	0.0027	< 0.4	< 0.002	0.23	< 0.0002	0.0011 J	0.015	0.00026 J	1.8	--	--	--	--	--	--	--	--	--	--	0.7	1.1	--
MW-73	URS/CWTP	Background	11/31/2021	FC-CCR-MW73-1121	1.6	460	560	0.12 J	6.48	7.0 J	7,400	9,600	0.00017 J	< 0.001	0.022	< 0.001	0.00018 J	<0.002	0.0041	0.12 J	< 0.001	0.31	<0.0002	0.0009	0.0072	0.00023	2.8	--	--	--	--	--	--	--	--	--	1.0	1.8	--
MW-73	URS/CWTP	Background	5/22/2022	FC-CCR-MW73-0522	1.6	470	570	< 0.8	6.55	7.47 J	7,100	11,000	< 0.002	< 0.001	0.018	< 0.001	< 0.0002	< 0.002	0.0042	< 0.8	< 0.001	0.34	< 0.0002	0.0012	0.0038	0.00023	1.4	--	--	--	--	--	--	--	--	--	--	<0.4	1.4	--
MW-73	URS/CWTP	Background	8/31/2022	FC-CCR-MW73-0822	1.6	--	--	--	6.66	6.9 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWTP	Background	11/14/2022	FC-CCR-MW73-1122	1.6	490	610	< 0.8	6.73	7.0 J	6,800	12,000	< 0.001	0.00092	0.022	< 0.001	0.00017	< 0.001	0.0042	< 0.8	< 0.0005	0.29	< 0.0002	0.0011	0.0095	0.00025	4.9	--	--	--	--	--	--	--	--	--	--	2.7	2.2	--
MW-62	CWTP	Downgradient	11/9/2015	FC-CCR-MW62-110915	2.1	520	150	1.6	6.63	6.94	3,600	6,700	< 0.0020	0.00098	0.043	9E-05	0.000084	< 0.0020	0.011	1.6	< 0.0010	0.11	< 0.00020	0.0043	0.00093	< 0.0010	--	1,100	< 5.0	--	1,100	--	340	--	--	--	11	--	--	710
MW-62	CWTP	Downgradient	11/9/2015	FC-CCR-MW62-110915	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0145	1.59	--
MW-62	CWTP	Downgradient	4/27/2016	FC-CCR-MW-62-042716	--	--	--	1.6	6.77	--	--	--	< 0.0025	0.0010	0.033	< 0.0010	< 0.00010	0.0010	0.0062	1.6	0.00058	< 0.20	< 0.00020	0.0029	0.00078	< 0.00010	0.6	--	--	--	--	--	--	--	--	--	0.6	< 0.8	--
MW-62	CWTP	Downgradient	6/5/2016	FC-CCR-MW62-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--	< 0.4	1.1	--
MW-62	CWTP	Downgradient	6/5/2016	FC-CCR-MW62-616	2.0	510	140	1.5	6.50	6.86	3,300	5,900	0.00011	0.00062	0.027	< 0.0010	< 0.00010	< 0.00050	0.0062	1.5	< 0.00050	< 0.20	< 0.00020	0.0030	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	8/20/2016	FC-CCR-MW62-816	2.3	530	120	1.5	7.40	6.7	3,300	5,800	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	8/20/2016	FC-CCR-MW62-816	--	--	--	1.3	--	--	--	--	0.00011	0.0023	0.034	< 0.0010	< 0.00010	0.0015	0.0061	1.3	0.00050	< 0.20	< 0.00020	0.012	0.00054	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	8/20/2016	FC-CCR-MW62-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--	< 0.2	1.4	--
MW-62	CWTP	Downgradient	9/27/2016	FC-CCR-MW62-916	2.5	530	130	1.5	6.73	6.9	3,300	5,600	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	9/27/2016	FC-CCR-MW62-916	--	--	--	1.5	--	--	--	--	< 0.0025	0.0020	0.036	< 0.0010	< 0.00010	< 0.0025	0.0069	1.5	< 0.00050	< 0.20	< 0.00020	0.0044	< 0.0030	< 0.00050	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	9/27/2016	FC-CCR-MW62-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--	--	< 0.4	1.3	--
MW-62	CWTP	Downgradient	10/19/2016	FC-CCR-MW62-1016	2.2	480	120	1.2	--	7.0	3,300	6,000	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	10/19/2016	FC-CCR-MW62-1016	--	--	--	--	6.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9	--	--	--	--	--	--	--	--	--	< 0.4	0.9	--
MW-62	CWTP	Downgradient	2/1/2017	FC-CCR-MW62-217	2.1	510	110	1.4	6.68	7.6	3,400	5,600	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	740	< 6.0	< 6.0	740	< 6.0	340	--	--	--	10	--	--	660
MW-62	CWTP	Downgradient	2/1/2017	FC-CCR-MW62-217	--	--	--	1.4	--	--	--	--	< 0.0010	0.0025	0.027	< 0.0010	< 0.00010	0.00031	0.0062	1.4	< 0.00050	< 0.20	< 0.00020	0.0034	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	2/1/2017	FC-CCR-MW62-217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	--	--	0.4	1.5	--
MW-62	CWTP	Downgradient	4/16/2017	FC-CCR-MW62-4167	1.9	500	120	1.2	6.64	7.2	3,300	5,900	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	350	--	--	--	9.4	--	--	710
MW-62	CWTP	Downgradient	4/16/2017	FC-CCR-MW62-4167	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-62	CWTP	Downgradient	4/16/2017	FC-CCR-MW62-4167	--	--	--	1.2	--	--	--	--	< 0.0040	< 0.0020	0.022	< 0.0010	< 0.00040	< 0.0020	0.0070	1.2	< 0.0020	< 0.20	< 0.00020	0.0036	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	5/1/2017	FC-CCR-MW62-5117	--	--	--	3.3	6.64	--	--	--	< 0.0010	< 0.00050	0.021	< 0.0010	< 0.00010	< 0.00050	0.0066	3.3	< 0.00050	< 0.20	< 0.00020	0.0032	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	5/1/2017	FC-CCR-MW62-5117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-62	CWTP	Downgradient	5/29/2017	FC-CCR-MW62-5297	--	--	--	1.2	6.50	--	--	--	< 0.0010	0.00067	0.021	< 0.0010	< 0.00010	< 0.00050	0.0073	1.2	< 0.00050	< 0.20	< 0.00020	0.0030	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	5/29/2017	FC-CCR-MW62-5297	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	--	--	0.8	0.8	--
MW-62	CWTP	Downgradient	6/21/2017	FC-CCR-MW62-6217	1.9	520	120	--	6.54	7.0	3,600	5,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	850	< 6.0	< 6.0	850	< 6.0	360	--	--	--	9.3	--	--	710
MW-62	CWTP	Downgradient	6/21/2017	FC-CCR-MW62-6217	--	--	--	1.4	--	--	--	--	< 0.0010	0.00065	0.023	< 0.0010	< 0.00010	0.0010	0.0084	1.4	< 0.00050	< 0.20	0.00025	0.0030	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	6/21/2017	FC-CCR-MW62-6217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-62	CWTP	Downgradient	7/21/2017	FC-CCR-MW62-7217	2.1	540	99	1.5	6.69	7.0	3,300	5,400	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	760	< 6.0	< 6.0	760	< 6.0	340	--	--	--	10	--	--	650
MW-62	CWTP	Downgradient	7/21/2017	FC-CCR-MW62-7217	--	--	--	--	--	--	--	--	< 0.0040	< 0.0020	0.023	< 0.0010	< 0.00040	< 0.0020	0.0044	--	< 0.0020	< 0.20	< 0.00020	0.0029	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	7/21/2017	FC-CCR-MW62-7217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-62	CWTP	Downgradient	8/9/2017	FC-CCR-MW62-8917	2.2	540	110	--	6.41	7.0	3,400	5,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	770	< 6.0	< 6.0	770	< 6.0	330	--	--	--	10	--	--	640
MW-62	CWTP	Downgradient	8/9/2017	FC-CCR-MW62-8917	--	--	--	1.4	--	--	--	--	< 0.0010	0.0016	0.027	< 0.0010	< 0.00010	< 0.0010	0.0048	1.4	< 0.00050	< 0.20	< 0.00020	0.0025	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	8/9/2017	FC-CCR-MW62-8917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--
MW-62	CWTP	Downgradient	8/16/2017	FC-CCR-MW62-8167	--	--	--	--	6.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--	< 0.5	1.0	--
MW-62	CWTP	Downgradient	8/16/2017	FC-CCR-MW62-8167	2.1	530	110	1.6	--	7.0	3,300	5,400	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	760	< 6.0	< 6.0	760	< 6.0	340	--	--	--	12	--	--	640
MW-62	CWTP	Downgradient	9/8/2017	FC-CCR-MW62-9917	2.3	530	130	--	6.43	6.8	3,300	5,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	360	--	--	--	11	--	--	660
MW-62	CWTP	Downgradient	9/8/2017	FC-CCR-MW62-9917	--	--	--	1.5	--	--	--	--	< 0.0040	0.0011	0.026	< 0.0010	< 0.00040	< 0.0040	0.0066	1.5	< 0.0020	< 0.20	< 0.00020	0.0028	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	9/9/2017	FC-CCR-MW62-9917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-62	CWTP	Downgradient	10/13/2017	FC-CCR-MW62-101317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.7	--	--	--	--	--	--	--	--	--	< 0.4	0.7	--
MW-62	CWTP	Downgradient	10/13/2017	FC-CCR-MW62-101317	2.2	520	130	1.5	6.46	6.8	3,300	5,600	< 0.0040	< 0.0050	0.028	< 0.0010	< 0.0010	< 0.010	0.010	1.5	< 0.0050	< 0.20	< 0.00020	0.0031	< 0.0020	< 0.0010	--	850	< 6.0	< 6.0	850	< 6.0	340	--	--	--	10	--	--	680
MW-62	CWTP	Downgradient	11/30/2017	FC-CCR-MW62-113017	2.3	570	130	1.4	6.43	7.0	3,400	5,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	360	--	--	--	10	--	--	740
MW-62	CWTP	Downgradient	4/8/2018	FC-CCR-MW62-4618	2.1	520	--	--	6.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	6/3/2018	FC-CCR-MW-62-6318	1.8	490	120	1.6	6.59	6.8	3,500	5,900	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	750	< 6.0	< 6.0	750	< 6.0	320	--	--	--	8.5	--	--	640
MW-62	CWTP	Downgradient	11/2/2018	FC-CCR-MW62-11218	2.4	550	110	1.5	6.46	6.8	3,300	5,600	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

					Appendix III Constituents								Appendix IV Constituents																Additional Analyses												
				Constituent	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity Total as CaCO3	Alkalinity Phenolphthalein as CaCO3	Magnesium	Nitrate as N	Nitrate Nitrite as N	Nitrite (as N)	Potassium	Radium 226	Radium 228	Sodium
				Filtered	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	pCi/L	mg/L
				CWTP BTV (applicable to MW-62)	2	536	637	1.8	6.5 - 6.9	6.5 - 6.9	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				CWTP BTV (applicable to MW-63)	2	536	637	2.3	6.5 - 6.9	6.5 - 6.9	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				CWTP BTV (applicable to MW-64)	0.73	486	637	1.6	7.23 - 7.66	7.23 - 7.66	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				CWTP BTV (applicable to MW-65)	0.73	486	637	2.1	7.00 -	7.00 -	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	4/1/2019	FC-CCR-MW62-4119	2.0	530	110	1.6	6.73	7.1	3,400	5,500	--	--	--	--	--	--	--	--	1.6	--	--	--	--	--	690	--	--	690	--	350	0.61	--	< 0.10	9.5	--	--	690
MW-62	CWTP	Downgradient	5/7/2019	FC-CCR-MW62-5719-01	1.8	540	--	1.4	6.65	7.2	--	5,800	--	--	--	--	--	--	--	--	1.4	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	12/3/2019	FC-CCR-MW62-120319	2.1	530	--	1.5	6.37	7.2 J	--	5,000	--	--	--	--	--	--	--	--	1.5	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	6/19/2020	FC-CCR-MW62-0620	1.9	490	82	1.8	6.90	6.9 J	2,800	4,700	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	11/5/2020	FC-CCR-MW62-1120	2.1 J	510	130	1.8	6.57	6.9 J	3,500	5,300	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	1/14/2021	FC-CCR-MW62-011421	--	--	--	1.2	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62	CWTP	Downgradient	4/22/2021	FC-CCR-MW62-0421	1.9	530	130	1.5	6.91	7.3 J	3,400	5,700	< 0.0010 U	< 0.0019 U	0.016	< 0.001	< 0.0001	< 0.001	0.00065	1.5	< 0.0005	0.12	< 0.0002	0.0029	< 0.0008 U	< 0.0001	>0.7	--	--	--	--	--	--	--	--	>0.4	>0.7	--	--
MW-62	CWTP	Downgradient	11/15/2021	FC-CCR-MW62-1121	2.3	530	180	1.4	6.51	7.7 J	4,000	6,700	< 0.002	< 0.001	0.025	< 0.001	< 0.0002	<0.002	0.014	1.4	< 0.001	0.14	<0.0002	0.0027	<0.001	0.000098 J	1.1	850	<6	<6	850	<6	480	<0.1	<0.1	<0.1	9.3	0.4	0.7	670
MW-62	CWTP	Downgradient	5/20/2022	FC-CCR-MW62-0522	1.8	500	180	1.4	6.89	7.45 J	3,400	6,000	<0.001	0.00073	0.015	<0.001	<0.0001	<0.001	0.0014	1.4	<0.0005	0.13	<0.0002	0.0027	0.002	<0.0002	>0.7	--	--	--	--	--	--	--	--	>0.4	>0.7	--	--
MW-62	CWTP	Downgradient	11/13/2022	FC-CCR-MW62-1122	2.1	610	200	1.6	6.75	7.0 J	4,000	7,100	< 0.001	0.012	0.031	< 0.001	< 0.0001	< 0.001	0.011	1.6	< 0.0005	0.15	0.00037	0.0023	< 0.0005	< 0.0001	1.0	--	--	--	--	--	--	--	--	0.4	0.6	--	--
MW-63	CWTP	Downgradient	11/4/2015	FC-CCR-MW63-110415	1.6	420	77	2.4	6.86	--	2,800	4,100	< 0.0020	0.0012	0.033	7E-05	< 0.0010	0.00043	0.0086	2.4	0.00015	0.083	< 0.00020	0.0058	0.00076	0.00011	--	540	< 5.0	--	540	--	260	--	--	--	7.4	--	--	410
MW-63	CWTP	Downgradient	11/4/2015	FC-CCR-MW63-110415	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.408	0.89	--	--
MW-63	CWTP	Downgradient	4/27/2016	FC-CCR-MW-63-042716	--	--	--	2.0	6.88	--	--	--	< 0.0025	0.00099	0.021	< 0.0010	< 0.00010	< 0.00050	0.0059	2.0	< 0.00050	< 0.20	< 0.00020	0.0026	< 0.00050	< 0.00010	0.6	--	--	--	--	--	--	--	--	--	0.6	< 0.8	--
MW-63	CWTP	Downgradient	6/5/2016	FC-CCR-MW63-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--
MW-63	CWTP	Downgradient	6/5/2016	FC-CCR-MW63-616	1.4	500	110	1.9	6.70	7.05	2,500	4,400	0.00013	0.00059	0.020	< 0.0010	< 0.00010	< 0.00050	0.0054	1.9	< 0.00050	< 0.20	< 0.00020	0.0025	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	8/30/2016	FC-CCR-MW63-816	1.9	550	98	1.9	6.82	6.9	2,800	4,700	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	8/30/2016	FC-CCR-MW63-816	--	--	--	1.9	--	--	--	--	0.00013	0.00082	0.022	< 0.0010	< 0.00010	0.00084	0.0064	1.9	< 0.00050	< 0.20	< 0.00020	0.017	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	8/30/2016	FC-CCR-MW63-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	--	0.2	1.8	--	--
MW-63	CWTP	Downgradient	9/12/2016	FC-CCR-MW63-916	2.0	550	110	2.1	7.03	7.1	2,800	4,700	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	9/12/2016	FC-CCR-MW63-916	--	--	--	2.0	--	--	--	--	< 0.0025	< 0.0010	0.022	< 0.0010	< 0.00050	< 0.0025	0.0069	2.0	< 0.00050	< 0.20	< 0.00020	0.0031	< 0.0030	< 0.00050	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	9/12/2016	FC-CCR-MW63-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	< 0.4	1.0	--	--
MW-63	CWTP	Downgradient	10/19/2016	FC-CCR-MW63-1016	1.7	470	100	1.8	6.82	7.2	2,700	4,500	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	10/19/2016	FC-CCR-MW63-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	< 0.2	< 0.7	--	--
MW-63	CWTP	Downgradient	10/20/2016	FC-CCR-MW100-1016	1.7	480	98	2.0	--	7.2	2,600	4,400	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	10/20/2016	FC-CCR-MW100-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	0.4	1.4	--	--
MW-63	CWTP	Downgradient	1/31/2017	FC-CCR-MW63-117	1.4	510	95	2.0	6.67	7.7	2,600	4,200	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	470	< 6.0	< 6.0	470	< 6.0	260	--	--	--	5.6	--	--	360
MW-63	CWTP	Downgradient	1/31/2017	FC-CCR-MW63-117	--	--	--	2.0	--	--	--	--	< 0.0010	< 0.00050	0.016	< 0.0010	0.00013	< 0.00050	0.0041	2.0	< 0.00050	< 0.20	< 0.00020	0.0024	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	1/31/2017	FC-CCR-MW63-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.7	--	--	--	--	--	--	--	--	< 0.4	0.7	--	--
MW-63	CWTP	Downgradient	1/31/2017	FC-CCR-MW100-117	1.4	500	93	1.7	--	7.6	2,500	4,200	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	470	< 6.0	< 6.0	470	< 6.0	260	--	--	--	5.5	--	--	350
MW-63	CWTP	Downgradient	1/31/2017	FC-CCR-MW100-117	--	--	--	1.8	--	--	--	--	< 0.0010	< 0.0010	0.018	< 0.0010	0.00017	< 0.0010	0.0042	1.8	< 0.00050	< 0.20	< 0.00020	0.0023	< 0.0010	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	1/31/2017	FC-CCR-MW100-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--	< 0.4	1.7	--	--
MW-63	CWTP	Downgradient	4/17/2017	FC-CCR-MW63-4177	1.4	520	98	1.6	6.78	7.3	2,600	4,400	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	500	< 6.0	< 6.0	500	< 6.0	270	--	--	--	5.7	--	--	360
MW-63	CWTP	Downgradient	4/17/2017	FC-CCR-MW63-4177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--
MW-63	CWTP	Downgradient	4/17/2017	FC-CCR-MW63-4177	--	--	--	1.5	--	--	--	--	< 0.0040	< 0.0020	0.017	< 0.0010	< 0.00040	< 0.0020	0.0055	1.5	< 0.0020	< 0.20	< 0.00020	0.0022	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	5/2/2017	FC-CCR-MW63-5217	--	--	--	2.5	6.79	--	--	--	< 0.0010	< 0.00050	0.017	< 0.0010	< 0.00010	< 0.00050	0.0050	2.5	< 0.00050	< 0.20	< 0.00020	0.0020	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	5/2/2017	FC-CCR-MW63-5217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8	--	--	--	--	--	--	--	--	< 0.4	0.8	--	--
MW-63	CWTP	Downgradient	5/28/2017	FC-CCR-MW63-52817	--	--	--	1.6	6.80	--	--	--	< 0.0010	< 0.00050	0.017	< 0.0010	< 0.00010	< 0.00050	0.0056	1.6	< 0.00050	< 0.20	< 0.00020	0.0024	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	5/28/2017	FC-CCR-MW63-52817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5	--	--	--	--	--	--	--	--	0.5	< 0.6	--	--
MW-63	CWTP	Downgradient	5/28/2017	*DUP* FC-CCR-FD01-52817	--	--	--	1.6	--	--	--	--	< 0.0010	< 0.00050	0.017	< 0.0010	< 0.00010	< 0.00050	0.0056	1.6	< 0.00050	< 0.20	< 0.00020	0.0023	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	5/28/2017	*DUP* FC-CCR-FD01-52817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--
MW-63	CWTP	Downgradient	6/21/2017	FC-CCR-MW63-6117	1.6	530	100	--	6.78	7.3	2,600	4,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	500	< 6.0	< 6.0	500	< 6.0	280	--	--	--	6.3	--	--	380
MW-63	CWTP	Downgradient	6/21/2017	FC-CCR-MW63-6117	--	--	--	1.9	--	--	--	--	< 0.0010	< 0.00050	0.019	< 0.0010	< 0.00010	< 0.00050	0.0060	1.9	< 0.00050	< 0.20	< 0.00020	0.0024	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	6/21/2017	FC-CCR-MW63-6117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4	--	--	--	--	--	--	--	--	0.4	< 0.6	--	--
MW-63	CWTP	Downgradient	7/21/2017	FC-CCR-MW63-7217	1.8	530	98	2.0	6.87	7.2	2,900	4,600	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	480	< 6.0	< 6.0	480	< 6.0	280	--	--	--	6.9	--	--	380
MW-63	CWTP	Downgradient	7/21/2017	FC-CCR-MW63-7217	--	--	--	--	--	--	--	--	< 0.0040	< 0.0020	0.018	< 0.0010	< 0.00040	< 0.0020	0.0057	--	< 0.0020	< 0.20	< 0.00020	0.0023	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	7/21/2017	FC-CCR-MW63-7217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8	--	--	--	--	--	--	--	--	< 0.3	0.8	--	--
MW-63	CWTP	Downgradient	8/9/2017	FC-CCR-MW63-8917	1.9	530	97	--	6.56	7.2	2,900	4,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	490	< 6.0	< 6.0	490	< 6.0	280	--	--	--	6.9	--	--	390
MW-63	CWTP	Downgradient	8/9/2017	FC-CCR-MW63-8917	--	--	--	1.9	--	--	--	--	< 0.0010	< 0.00050	0.020	< 0.0010	< 0.00010	< 0.0010	0.0063	1.9	< 0.00050	< 0.20	< 0.00020	0.0026	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	8/9/2017	FC-CCR-MW63-8917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--
MW-63	CWTP	Downgradient	8/16/2017	FC-CCR-MW63-8617	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--
MW-63	CWTP	Downgradient	8/16/2017	FC-CCR-MW63-8617	1.8	580	100	2.1	6.53	7.2	2,700	4,500	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	490	< 6.0	< 6.0	490	< 6.0	300	--	--	--	7.7	--	--	400
MW-63	CWTP	Downgradient	9/9/2017	FC-CCR-MW63-9917	2.0	540	97	--	6.83	7.0	2,700	4,300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	490	< 6.0	< 6.0	490	< 6.0	270	--	--	--	6.9	--	--	360
MW-63	CWTP	Downgradient	9/9/2017	FC-CCR-MW63-9917	--	--	--	2.0	--	--	--	--	< 0.0040	< 0.0020	0.020	< 0.0010	< 0.00040	< 0.0040	0.0060	2.0	< 0.0020	< 0.20	< 0.00020	0.0025	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	9/9/2017	FC-CCR-MW63-9917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.7	--	--	--	--	--	--	--	--	< 0.4	0.7	--	--
MW-63	CWTP	Downgradient	10/31/2017	FC-CCR-MW63-103117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--	0.6	1.2	--	--
MW-63	CWTP	Downgradient	10/31/2017	FC-CCR-MW63-103117	1.8	500	90	2.0	6.69	7.1	2,700	4,300	< 0.0040	< 0.0050	0.022	< 0.0010	< 0.0010	< 0.010	0.0069	2.0	< 0.0050	< 0.20	< 0.00020	0.0029	< 0.0020	< 0.0010	--	490	< 6.0	< 6.0	490	< 6.0	250	--	--	--	6.7	--	--	340
MW-63	CWTP	Downgradient	11/30/2017	FC-CCR-MW63-113017	1.7	560	91	1.8	6.72	7.2	2,700	4,500	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	500	< 6.0	< 6.0	500	< 6.0	270	--	--	--	6.6	--	--	360
MW-63	CWTP	Downgradient	4/8/2018	FC-CCR-MW63-4618	1.3	530	--	--	6.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	6/3/2018	FC-CCR-MW-63-6318	1.4	510	90	1.7	6.76	7.1	2,600	4,500	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	500	< 6.0	< 6.0	500	< 6.0	260	--	--	--	5.4	--	--	320
MW-63	CWTP	Downgradient	11/2/2018	FC-CCR-MW63-112818	1.9	550	88	1.9	6.66	7.1	2,800	4,300	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	4/1/2019	FC-CCR-MW63-4119	1.2	500	88	1.7	6.80	7.0	2,600	4,300	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	430	--	--	430	--	260	< 0.10	--	< 0.10	4.9	--	--	280
MW-63	CWTP	Downgradient	5/7/2019	FC-CCR-MW63-5719-02	1.3	540	--	1.6	6.63	7.2	--	4,400	--	--	--	--	--	--	--	1.6	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	12/3/2019	FC-CCR-MW63-120319	1.5	550	--	1.8	6.58	7.1 J	--	4,300	--	--	--	--	--	--	--	1.8	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	12/3/2019	*DUP* FC-CCR-FD01-120319	1.6	560	--	1.8	--	7.2 J	--	4,100	--	--	--	--	--	--	--	1.8	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP		6/19/2020	FC-CCR-MW63-0620	1.5	540	77	2.1	--	7.2 J	2,400	4,200	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	11/5/2020	FC-CCR-MW63-1120	1.9	550	85	2.2	6.72	7.1 J	2,800	4,300	--	--	--	--	--	--	--	2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	6/22/2021	FC-CCR-MW63-0621	0.93	400	88	2.0	7.07	7.4 J	1,900	3,300	< 0.0010 U	< 0.0011 U	0.030	< 0.001	< 0.0001	< 0.001	0.00062	2.0	< 0.0005	0.067	< 0.0002	0.0019	< 0.0005 U	< 0.0001	>0.7	--	--	--	--	--	--	--	--	>0.4	>0.7	--	--
MW-63	CWTP	Downgradient	7/8/2021	FC-CCR-MW63-0721	--	--	--	--	7.31	7.7 J	--	--	--	--	--	< 0.001 U	0.000064 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	11/15/2021	FC-CCR-MW63-1121	1.3	440	81 J	0.28 J	6.89	7.7 J	2,100	3,600	< 0.002 U	< 0.001	0.022	< 0.001	< 0.0002	<0.002	0.0022	0.28 J	< 0.001	0.066	<0.0002	0.0035	<0.001	0.00015 J	>0.6	330	<6	<6	330	<6	160	20	20	0.15	5.5	>0.3	>0.6	250
MW-63	CWTP	Downgradient	5/20/2022	FC-CCR-MW63-0522	0.83	310	93	2.1	7.09	7.40 J	1,500	2,500	<0.002	<0.001	0.015	<0.001	<0.0002	<0.002	0.0012	2.1	<0.001	0.058	<0.0002	0.0029	0.0013	<0.0002	>0.7	--	--	--	--	--	--	--	--	>0.4	>0.7	--	--
MW-63	CWTP	Downgradient	8/14/2022	FC-CCR-MW63-0822	--	--	--	--	6.88	7.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63	CWTP	Downgradient	11/13/2022	FC-CCR-MW63-1122	1.1	420	80	2.1	7.00	7.4 J	1,700	3,000	< 0.001	0.00063	0.023	< 0.001	< 0.0001	< 0.001	0.0026	2.1	< 0.0005	0.061	< 0.0002	0.0036	0.00051	< 0.0001	>0.6	--	--	--	--	--	--	--	--	>0.4	>0.6	--	--
MW-64	CWTP	Downgradient	11/5/2015	FC-CCR-MW64-110515	0.64	87	49	1.5	7.64	--	320	780	< 0.0020	0.00070	0.027	< 0.0010	< 0.0010	0.00023	0.0015	1.5	0.00016	0.022	< 0.00020	0.0057	0.00033	0.00011	--	320	< 5.0	--	320	--	34	--	--	--	6.1	--	--	120
MW-64	CWTP	Downgradient	11/5/2015	FC-CCR-MW64-110515	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.339	< 0.392	--	--
MW-64	CWTP	Downgradient	4/27/2016	FC-CCR-MW-64-042716	--	--	--	1.4	7.50	--	--	--	< 0.0025	< 0.00050	0.027	< 0.0010	< 0.00010	0.00071	0.0017	1.4	< 0.00050	< 0.20	< 0.00020	0.0051	< 0.00050	0.00012	< 0.8	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--

Groundwater Sampling Results for the CWTP Monitoring Wells

					Appendix III Constituents								Appendix IV Constituents															Additional Analyses												
				Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Magnesium	Nitrate as N	Nitrate Nitrite as N	Nitrite (as N)	Potassium	Radium 226	Radium 228	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L
				CWTP BTV (applicable to MW-62)	*2*	*536*	*631*	*1.8*	*6.5 - 6.9*	*6.5 - 6.9*	*13,000*	*20,000*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
				CWTP BTV (applicable to MW-63)	*2*	*536*	*631*	*2.3*	*6.5 - 6.9*	*6.5 - 6.9*	*13,000*	*20,000*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
				CWTP BTV (applicable to MW-64)	*0.73*	*486*	*631*	*1.6*	*7.23 - 7.66*	*7.23 - 7.66*	*13,000*	*20,000*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
				CWTP BTV (applicable to MW-65)	*0.73*	*486*	*631*	*2.1*	*7.00 -*	*7.00 -*	*13,000*	*20,000*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--
MW-64	CWTP	Downgradient	6/5/2016	FC-CCR-MW64-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--
MW-64	CWTP	Downgradient	6/5/2016	FC-CCR-MW64-616	**0.58**	**86**	**52**	**1.4**	**7.29**	**7.66**	**350**	**800**	< 0.00010	< 0.00050	**0.027**	< 0.0010	< 0.00010	< 0.00050	**0.0012**	**1.4**	< 0.00050	< 0.20	< 0.00020	**0.0050**	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	8/20/2016	FC-CCR-MW64-816	**0.65**	**89**	**46**	**1.3**	**7.68**	**7.5**	**330**	**790**	--	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	8/20/2016	FC-CCR-MW64-816	--	--	--	**1.6**	--	--	--	--	< 0.00010	**0.00056**	**0.033**	< 0.0010	< 0.00010	**0.00093**	**0.0015**	**1.6**	< 0.00050	< 0.20	< 0.00020	**0.0073**	< 0.00050	**0.00013**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	8/20/2016	FC-CCR-MW64-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.7	--
MW-64	CWTP	Downgradient	9/12/2016	FC-CCR-MW64-916	**0.67**	**90**	**52**	**1.5**	**7.54**	**7.7**	**320**	**790**	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	9/12/2016	FC-CCR-MW64-916	--	--	--	**1.5**	--	--	--	--	< 0.0025	< 0.0010	**0.027**	< 0.0010	< 0.00050	< 0.0025	**0.0015**	**1.5**	< 0.00050	< 0.20	< 0.00020	**0.0052**	< 0.0030	< 0.00050	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	9/12/2016	FC-CCR-MW64-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.8**	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.8**	--
MW-64	CWTP	Downgradient	10/19/2016	FC-CCR-MW64-1016	**0.64**	**83**	**53**	**1.5**	**7.52**	**7.8**	**330**	**790**	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	10/19/2016	FC-CCR-MW64-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.5	--
MW-64	CWTP	Downgradient	1/31/2017	FC-CCR-MW64-117	**0.61**	**85**	**48**	**1.4**	**7.38**	**8.1**	**340**	**800**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	**230**	< 6.0	< 6.0	**230**	< 6.0	**34**	--	--	--	**5.7**	--	--	**120**
MW-64	CWTP	Downgradient	1/31/2017	FC-CCR-MW64-117	--	--	--	**1.5**	--	--	--	--	< 0.0010	< 0.00050	**0.025**	< 0.0010	< 0.00010	< 0.00050	**0.0012**	**1.5**	< 0.00050	< 0.20	< 0.00020	**0.0048**	< 0.00050	**0.00011**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	1/31/2017	FC-CCR-MW64-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.7**	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.7**	--
MW-64	CWTP	Downgradient	4/17/2017	FC-CCR-MW64-41717	**0.58**	**85**	**51**	**1.4**	**7.53**	**7.9**	**870**	**800**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	**220**	< 6.0	< 6.0	**220**	< 6.0	**35**	--	--	--	**5.8**	--	--	**120**
MW-64	CWTP	Downgradient	4/17/2017	FC-CCR-MW64-41717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-64	CWTP	Downgradient	4/17/2017	FC-CCR-MW64-41717	--	--	--	**1.4**	--	--	--	--	< 0.0040	< 0.0020	**0.026**	< 0.0010	< 0.00040	< 0.0020	< 0.0020	**1.4**	< 0.00050	< 0.20	< 0.00020	**0.0049**	< 0.0020	**0.00012**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	5/2/2017	FC-CCR-MW64-5217	--	--	--	**1.3**	**7.47**	--	--	--	< 0.0010	< 0.00050	**0.026**	< 0.0010	< 0.00010	< 0.00050	**0.0011**	**1.3**	< 0.00050	< 0.20	< 0.00020	**0.0045**	< 0.00050	**0.00011**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	5/2/2017	FC-CCR-MW64-5217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	**0.7**	< 0.6	--
MW-64	CWTP	Downgradient	5/2/2017	*DUP* FC-CCR-FD02-5217	--	--	--	**1.3**	--	--	--	--	< 0.0010	< 0.00050	**0.026**	< 0.0010	< 0.00010	< 0.00050	**0.0011**	**1.3**	< 0.00050	< 0.20	< 0.00020	**0.0044**	< 0.00050	**0.00011**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	5/2/2017	*DUP* FC-CCR-FD02-5217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-64	CWTP	Downgradient	5/28/2017	FC-CCR-MW64-52817	--	--	--	**1.5**	**7.45**	--	--	--	< 0.0010	< 0.00050	**0.025**	< 0.0010	< 0.00010	< 0.00050	**0.0011**	**1.5**	< 0.00050	< 0.20	< 0.00020	**0.0045**	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	5/28/2017	FC-CCR-MW64-52817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-64	CWTP	Downgradient	6/21/2017	FC-CCR-MW64-62117	**0.55**	**86**	**51**	--	**7.50**	**7.8**	**390**	**770**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**220**	< 6.0	< 6.0	**220**	< 6.0	**36**	--	--	--	**5.8**	--	--	**120**
MW-64	CWTP	Downgradient	6/21/2017	FC-CCR-MW64-62117	--	--	--	**1.4**	--	--	--	--	< 0.0010	< 0.00050	**0.027**	< 0.0010	< 0.00010	< 0.00050	**0.0012**	**1.4**	< 0.00050	< 0.20	< 0.00020	**0.0051**	< 0.00050	**0.00020**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	6/21/2017	FC-CCR-MW64-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-64	CWTP	Downgradient	7/21/2017	FC-CCR-MW64-72117	**0.59**	**88**	**52**	**1.5**	**7.61**	**7.7**	**370**	**790**	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--	**210**	< 6.0	< 6.0	**210**	< 6.0	**37**	--	--	--	**6.2**	--	--	**130**
MW-64	CWTP	Downgradient	7/21/2017	FC-CCR-MW64-72117	--	--	--	--	--	--	--	--	< 0.0040	< 0.0020	**0.024**	< 0.0010	< 0.00040	< 0.0020	< 0.0020	--	< 0.0020	< 0.20	< 0.00020	**0.0042**	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	7/21/2017	FC-CCR-MW64-72117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-64	CWTP	Downgradient	8/9/2017	FC-CCR-MW64-8917	**0.61**	**89**	**52**	--	**7.31**	**7.8**	**380**	**890**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**220**	< 6.0	< 6.0	**220**	< 6.0	**37**	--	--	--	**6.0**	--	--	**130**
MW-64	CWTP	Downgradient	8/9/2017	FC-CCR-MW64-8917	--	--	--	**1.5**	--	--	--	--	< 0.0010	< 0.00050	**0.027**	< 0.0010	< 0.00010	< 0.0010	**0.0012**	**1.5**	< 0.00050	< 0.20	< 0.00020	**0.0047**	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	8/9/2017	FC-CCR-MW64-8917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.8**	--	--	--	--	--	--	--	--	--	--	< 0.5	**0.8**	--
MW-64	CWTP	Downgradient	8/16/2017	FC-CCR-MW64-81617	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--
MW-64	CWTP	Downgradient	8/16/2017	FC-CCR-MW64-81617	**0.58**	**89**	**53**	**1.5**	**7.29**	**7.8**	**360**	**790**	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--	**230**	< 6.0	< 6.0	**230**	< 6.0	**36**	--	--	--	**6.1**	--	--	**120**
MW-64	CWTP	Downgradient	9/9/2017	FC-CCR-MW64-9917	**0.67**	**90**	**53**	--	**7.36**	**7.8**	**350**	**810**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**230**	< 6.0	< 6.0	**230**	< 6.0	**35**	--	--	--	**5.8**	--	--	**120**
MW-64	CWTP	Downgradient	9/9/2017	FC-CCR-MW64-9917	--	--	--	**1.5**	--	--	--	--	< 0.0040	< 0.0020	**0.024**	< 0.0010	< 0.00040	< 0.0040	< 0.0020	**1.5**	< 0.0020	< 0.20	< 0.00020	**0.0045**	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	9/9/2017	FC-CCR-MW64-9917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-64	CWTP	Downgradient	10/13/2017	FC-CCR-MW64-101317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-64	CWTP	Downgradient	10/13/2017	FC-CCR-MW64-101317	**0.62**	**82**	**52**	**1.4**	**7.42**	**7.7**	**360**	**790**	< 0.0040	< 0.0050	**0.029**	< 0.0010	< 0.0010	< 0.010	< 0.0050	**1.4**	< 0.0050	< 0.20	< 0.00020	**0.0051**	< 0.0020	< 0.00040	--	**230**	< 6.0	< 6.0	**230**	< 6.0	**33**	--	--	--	**5.7**	--	--	**120**
MW-64	CWTP	Downgradient	11/30/2017	FC-CCR-MW64-113017	**0.64**	**90**	**52**	**1.4**	**7.37**	**7.7**	**350**	**780**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	**230**	< 6.0	< 6.0	**230**	< 6.0	**34**	--	--	--	**5.9**	--	--	**120**
MW-64	CWTP	Downgradient	6/3/2018	FC-CCR-MW-64-6318	**0.48**	**85**	**50**	**1.4**	**7.54**	**7.7**	**390**	**800**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	**190**	< 6.0	< 6.0	**190**	< 6.0	**34**	--	--	--	**5.4**	--	--	**110**
MW-64	CWTP	Downgradient	11/2/2018	FC-CCR-MW64-11218	**0.64**	**88**	**50**	**1.4**	**7.43**	**7.8**	**350**	**760**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	4/1/2019	FC-CCR-MW64-4119	**0.48**	**81**	**51**	**1.4**	**7.48**	**7.7**	**360**	**760**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	**200**	--	--	**200**	--	**33**	< 0.10	--	< 0.10	**5.3**	--	--	**110**
MW-64	CWTP	Downgradient	5/7/2019	FC-CCR-MW64-5719-03	**0.49**	**89**	--	**1.4**	**7.41**	**8.0**	--	**790**	--	--	--	--	--	--	--	**1.4**	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	5/7/2019	*DUP* FC-CCR-FD03-5719-04	**0.48**	**88**	--	**1.4**	--	**8.0**	--	**780**	--	--	--	--	--	--	--	**1.4**	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	12/3/2019	FC-CCR-MW64-120319	**0.56**	**82**	--	**1.5**	**7.29**	**7.8 J**	--	**720**	--	--	--	--	--	--	--	**1.5**	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	6/19/2020	FC-CCR-MW64-0620	**0.47**	**77**	**49**	**1.3**	**7.22**	**7.9 J**	**300**	**790**	--	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	11/5/2020	FC-CCR-MW64-1120	**0.51**	**73**	**53**	**1.6**	**7.49**	**7.8 J**	**270**	**720**	--	--	--	--	--	--	--	**1.6**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	4/22/2021	FC-CCR-MW64-0421	**0.50**	**89**	**52**	**1.4**	**7.60**	**7.9 J**	**300**	**660**	< 0.0010 U	< 0.00096 U	**0.033**	< 0.001	< 0.0001	< 0.001	**0.00083**	**1.4**	< 0.0005	**0.019 J**	< 0.0002	**0.0047**	< 0.0005 U	< 0.0001	<0.7	--	--	--	--	--	--	--	--	--	--	<0.4	<0.7	--
MW-64	CWTP	Downgradient	11/15/2021	FC-CCR-MW64-1121	**0.58**	**72**	**51**	**1.4**	**7.29**	**7.1 J**	**270**	**680**	< 0.002	< 0.001	**0.024 J**	< 0.001 U	**0.000058 J**	<0.002	**0.0018**	**1.4**	< 0.001	**0.019 J**	<0.0002	**0.0052**	<0.001	**0.00041**	<0.6	**230**	<6	<6	**230**	<6	**29**	**1.3**	**1.5**	**0.15**	**5.4**	<0.3	<0.6	**95**
MW-64	CWTP	Downgradient	5/20/2022	FC-CCR-MW64-0522	**0.53**	**77**	**52**	**1.4**	**7.61**	**7.90 J**	**290**	**850**	<0.002	<0.001	**0.035**	<0.001	<0.0002	<0.002	**0.0011**	**1.4**	<0.001	**0.027**	<0.0002	**0.0049**	<0.001	<0.0002	<0.7	--	--	--	--	--	--	--	--	--	--	<0.4	<0.7	--
MW-64	CWTP	Downgradient	5/20/2022	FC-CCR-SS01-0522	**0.554**	**86.4**	**43.1**	**0.874 J / 1.39**	**7.61**	**8.3 J**	**406**	**734**	< 0.002	**0.00022 J**	**0.0329**	< 0.00025	< 0.00025	< 0.002	**0.00113**	**0.874 J / 1.39**	< 0.0005	**0.06**	< 0.001	**0.0048**	< 0.00025	< 0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64	CWTP	Downgradient	11/13/2022	FC-CCR-MW64-1122	**0.52**	**70**	**51**	**1.6**	**7.56**	**7.9 J**	**230**	**610**	< 0.001	< 0.0005	**0.023**	< 0.001	< 0.0001	< 0.001	**0.0018**	**1.6**	< 0.0005	**0.021**	< 0.0002	**0.0052**	< 0.0005	**0.00013**	**0.8**	--	--	--	--	--	--	--	--	--	--	**0.8**	< 0.6	--
MW-65	CWTP	Downgradient	11/5/2015	FC-CCR-MW65-110515	**0.86**	**100**	**52**	**2.0**	**7.50**	--	**440**	**1,000**	< 0.0020	**0.00071**	**0.014**	< 0.0010	< 0.0010	**0.00049**	**0.0012**	**2.0**	< 0.0010	**0.054**	< 0.00020	**0.0093**	**0.00034**	< 0.0010	--	**390**	< 5.0	--	**390**	--	**59**	--	--	--	**3.2**	--	--	**140**
MW-65	CWTP	Downgradient	11/5/2015	FC-CCR-MW65-110515	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0704	< 0.408	--
MW-65	CWTP	Downgradient	4/27/2016	FC-CCR-MW-65-042716	--	--	--	**1.8**	**7.29**	--	--	--	< 0.0025	< 0.00050	**0.017**	< 0.0010	< 0.00010	**0.0015**	**0.0012**	**1.8**	< 0.00050	< 0.20	< 0.00020	**0.0078**	< 0.00050	< 0.00010	< 0.8	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--
MW-65	CWTP	Downgradient	6/5/2016	FC-CCR-MW65-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--
MW-65	CWTP	Downgradient	6/5/2016	FC-CCR-MW65-616	**0.75**	**100**	**54**	**2.0**	**7.08**	**7.41**	**460**	**1,100**	< 0.00010	< 0.00050	**0.014**	< 0.0010	< 0.00010	< 0.00050	**0.0011**	**2.0**	< 0.00050	< 0.20	< 0.00020	**0.0083**	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	8/20/2016	FC-CCR-MW65-816	**0.79**	**100**	**52**	**1.7**	**8.27**	**7.4**	**450**	**1,000**	--	--	--	--	--	--	--	**1.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	8/20/2016	FC-CCR-MW65-816	--	--	--	**2.1**	--	--	--	--	< 0.00010	< 0.00050	**0.019**	< 0.0010	< 0.00010	< 0.00050	**0.0012**	**2.1**	< 0.00050	< 0.20	< 0.00020	**0.013**	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	8/20/2016	FC-CCR-MW65-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.4	--
MW-65	CWTP	Downgradient	9/12/2016	FC-CCR-MW65-916	**0.83**	**110**	**54**	**2.0**	**7.52**	**7.5**	**480**	**1,100**	--	--	--	--	--	--	--	**2.0**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	9/12/2016	FC-CCR-MW65-916	--	--	--	**2.0**	--	--	--	--	< 0.0025	< 0.0010	**0.013**	< 0.0010	< 0.00050	< 0.0025	**0.0014**	**2.0**	< 0.00050	< 0.20	< 0.00020	**0.0084**	< 0.0030	< 0.00050	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	9/12/2016	FC-CCR-MW65-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.0**	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.0**	--
MW-65	CWTP	Downgradient	10/19/2016	FC-CCR-MW65-1016	**0.77**	**95**	**54**	**2.0**	**7.36**	**7.6**	**450**	**1,000**	--	--	--	--	--	--	--	**2.0**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	10/19/2016	FC-CCR-MW65-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.5	--
MW-65	CWTP	Downgradient	2/1/2017	FC-CCR-MW65-117	**0.76**	**96**	**51**	**1.8**	**7.35**	**7.9**	**410**	**970**	--	--	--	--	--	--	--	**1.8**	--	--	--	--	--	--	--	**310**	< 6.0	< 6.0	**310**	< 6.0	**56**	--	--	--	**3.6**	--	--	**140**
MW-65	CWTP	Downgradient	2/1/2017	FC-CCR-MW65-117	--	--	--	**2.0**	--	--	--	--	< 0.0010	< 0.00050	**0.014**	< 0.0010	< 0.00010	< 0.00050	**0.0011**	**2.0**	< 0.00050	< 0.20	< 0.00020	**0.0086**	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	2/1/2017	FC-CCR-MW65-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	--	--	--	**0.4**	**1.5**	--
MW-65	CWTP	Downgradient	4/16/2017	FC-CCR-MW65-41617	**0.83**	**120**	**60**	**1.8**	**7.21**	**7.6**	**490**	**1,300**	--	--	--	--	--	--	--	**1.8**	--	--	--	--	--	--	--	**320**	< 6.0	< 6.0	**320**	< 6.0	**62**	--	--	--	**4.0**	--	--	**170**
MW-65	CWTP	Downgradient	4/16/2017	FC-CCR-MW65-41617	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.7**	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.7**	--
MW-65	CWTP	Downgradient	4/16/2017	FC-CCR-MW65-41617	--	--	--	**1.7**	--	--	--	--	< 0.0040	< 0.0020	**0.016**	< 0.0010	< 0.00040	< 0.0020	< 0.0020	**1.7**	< 0.0020	< 0.20	< 0.00020	**0.0082**	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	5/1/2017	FC-CCR-MW65-5117	--	--	--	**1.6**	**7.24**	--	--	--	< 0.0010	< 0.00050	**0.017**	< 0.0010	< 0.00010	< 0.00050	**0.0011**	**1.6**	< 0.00050	< 0.20	< 0.00020	**0.0083**	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	5/1/2017	FC-CCR-MW65-5117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-65	CWTP	Downgradient	5/1/2017	*DUP* FC-CCR-FD01-5117	--	--	--	**1.6**	--	--	--	--	< 0.0010	< 0.00050	**0.017**	< 0.0010	< 0.00010	< 0.00050	**0.0011**	**1.6**	< 0.00050	< 0.20	< 0.00020	**0.0083**	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	5/1/2017	*DUP* FC-CCR-FD01-5117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--

Groundwater Sampling Results for the CWTP Monitoring Wells

					Appendix III Constituents								Appendix IV Constituents															Additional Analyses												
				Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity (as CaCO3)	Alkalinity Phenolphthalein (as CaCO3)	Magnesium	Nitrate as N	Nitrate Nitrite as N	Nitrite (as N)	Potassium	Radium 226	Radium 228	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L
				CWTP BTV (applicable to MW-62)	2	536	631	1.8	6.5 - 6.9	6.5 - 6.9	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				CWTP BTV (applicable to MW-63)	2	536	631	2.3	6.5 - 6.9	6.5 - 6.9	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				CWTP BTV (applicable to MW-64)	0.73	486	631	1.6	7.23 - 7.66	7.23 - 7.66	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				CWTP BTV (applicable to MW-65)	0.73	486	631	2.1	7.00 -	7.00 -	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	5/29/2017	FC-CCR-MW65-5297	--	--	--	1.8	7.10	--	--	--	< 0.0010	< 0.00050	0.021	< 0.0010	< 0.00010	< 0.00050	0.0010	1.8	< 0.00050	< 0.20	< 0.00020	0.010	< 0.00050	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	5/29/2017	FC-CCR-MW65-5297	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-65	CWTP	Downgradient	5/29/2017	*DUP* FC-CCR-FD02-5297	--	--	--	1.8	--	--	--	--	< 0.010	< 0.0050	0.023	< 0.0010	< 0.0010	< 0.0050	< 0.0050	1.8	< 0.0050	< 0.20	< 0.00020	0.010	< 0.0050	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	5/29/2017	*DUP* FC-CCR-FD02-5297	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-65	CWTP	Downgradient	6/21/2017	FC-CCR-MW65-6217	0.92	140	68	--	7.06	7.6	710	1,400	--	--	--	--	--	--	--	1.9	< 0.00050	< 0.20	< 0.00020	0.0097	< 0.00050	< 0.0010	--	320	< 6.0	< 6.0	320	< 6.0	73	--	--	--	3.9	--	--	190
MW-65	CWTP	Downgradient	6/21/2017	FC-CCR-MW65-6217	--	--	--	1.9	--	--	--	--	< 0.0010	< 0.00050	0.018	< 0.0010	< 0.00010	< 0.00050	0.0011	1.9	< 0.00050	< 0.20	< 0.00020	0.0097	< 0.00050	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	6/21/2017	FC-CCR-MW65-6217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-65	CWTP	Downgradient	6/21/2017	*DUP* FC-CCR-FD01-6217	0.96	140	68	--	--	7.6	720	1,300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	330	< 6.0	< 6.0	330	< 6.0	76	--	--	--	4.0	--	--	200
MW-65	CWTP	Downgradient	6/21/2017	*DUP* FC-CCR-FD01-6217	--	--	--	2.0	--	--	--	--	< 0.0010	< 0.00050	0.019	< 0.0010	< 0.00010	< 0.00050	0.0011	2.0	< 0.00050	< 0.20	< 0.00020	0.0098	< 0.00050	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	6/21/2017	*DUP* FC-CCR-FD01-6217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--	--	--	0.5	1.8	--
MW-65	CWTP	Downgradient	7/21/2017	FC-CCR-MW65-7217	0.76	110	53	2.0	7.31	7.5	470	1,000	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	310	< 6.0	< 6.0	310	< 6.0	63	--	--	--	3.7	--	--	150
MW-65	CWTP	Downgradient	7/21/2017	FC-CCR-MW65-7217	--	--	--	2.0	--	--	--	--	< 0.0040	< 0.0020	0.012	< 0.0010	< 0.00040	< 0.0020	< 0.0020	2.0	< 0.0020	< 0.20	< 0.00020	0.0080	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-65	CWTP	Downgradient	7/21/2017	FC-CCR-MW65-7217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-65	CWTP	Downgradient	7/21/2017	*DUP* FC-CCR-FD01-7217	0.77	110	53	2.0	--	7.5	470	1,000	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	310	< 6.0	< 6.0	310	< 6.0	63	--	--	--	3.7	--	--	150
MW-65	CWTP	Downgradient	7/21/2017	*DUP* FC-CCR-FD01-7217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-65	CWTP	Downgradient	8/8/2017	FC-CCR-MW65-8817	0.76	110	53	--	7.35	7.7	490	1,000	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	330	< 6.0	< 6.0	330	< 6.0	65	--	--	--	3.6	--	--	140
MW-65	CWTP	Downgradient	8/8/2017	FC-CCR-MW65-8817	--	--	--	2.0	--	--	--	--	< 0.0010	< 0.00050	0.012	< 0.0010	< 0.00010	< 0.0010	0.0012	2.0	< 0.00050	< 0.20	< 0.00020	0.0083	< 0.00050	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	8/8/2017	FC-CCR-MW65-8817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-65	CWTP	Downgradient	8/8/2017	FC-CCR-MW65-8817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-65	CWTP	Downgradient	8/8/2017	FC-CCR-MW65-8817	0.75	110	53	2.0	6.96	7.7	500	1,000	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	320	< 6.0	< 6.0	320	< 6.0	63	--	--	--	4.0	--	--	150
MW-65	CWTP	Downgradient	8/8/2017	*DUP* FC-CCR-FD01-8817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-65	CWTP	Downgradient	8/8/2017	*DUP* FC-CCR-FD01-8817	0.75	110	53	2.0	--	7.6	470	1,000	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	310	< 6.0	< 6.0	310	< 6.0	62	--	--	--	3.9	--	--	150
MW-65	CWTP	Downgradient	9/9/2017	FC-CCR-MW65-9917	0.80	110	53	--	7.04	7.5	450	1,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	320	< 6.0	< 6.0	320	< 6.0	59	--	--	--	3.4	--	--	140
MW-65	CWTP	Downgradient	9/9/2017	FC-CCR-MW65-9917	--	--	--	2.0	--	--	--	--	< 0.0040	< 0.0020	0.012	< 0.0010	< 0.00040	< 0.0040	< 0.0020	2.0	< 0.0020	< 0.20	< 0.00020	0.0080	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	9/9/2017	FC-CCR-MW65-9917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-65	CWTP	Downgradient	9/9/2017	*DUP* FC-CCR-FD01-9917	0.81	110	54	--	--	7.5	450	1,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	320	< 6.0	< 6.0	320	< 6.0	60	--	--	--	3.5	--	--	140
MW-65	CWTP	Downgradient	9/9/2017	*DUP* FC-CCR-FD01-9917	--	--	--	2.0	--	--	--	--	< 0.0040	< 0.0020	0.011	< 0.0010	< 0.00040	< 0.0040	< 0.0020	2.0	< 0.0020	< 0.20	< 0.00020	0.0081	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	9/9/2017	*DUP* FC-CCR-FD01-9917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-65	CWTP	Downgradient	10/13/2017	FC-CCR-MW65-10137	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-65	CWTP	Downgradient	10/13/2017	FC-CCR-MW65-10137	0.75	92	52	1.9	7.13	7.6	400	960	< 0.0010	< 0.00050	0.015	< 0.0010	< 0.00010	< 0.0010	0.0011	1.9	< 0.00050	< 0.20	< 0.00020	0.0093	< 0.00050	< 0.0010	--	330	< 6.0	< 6.0	330	< 6.0	54	--	--	--	3.6	--	--	130
MW-65	CWTP	Downgradient	10/13/2017	*DUP* FC-CCR-FD02-10137	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-65	CWTP	Downgradient	10/13/2017	*DUP* FC-CCR-FD02-10137	0.76	93	52	1.9	--	7.6	400	980	< 0.0010	< 0.00050	0.015	< 0.0010	< 0.00010	< 0.0010	0.0012	1.9	< 0.00050	< 0.20	< 0.00020	0.0094	< 0.00050	< 0.0010	--	330	< 6.0	< 6.0	330	< 6.0	55	--	--	--	3.5	--	--	140
MW-65	CWTP	Downgradient	11/30/2017	FC-CCR-MW65-113017	0.79	100	53	2.0	7.21	7.6	410	990	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	330	< 6.0	< 6.0	330	< 6.0	57	--	--	--	3.5	--	--	140
MW-65	CWTP	Downgradient	6/3/2018	FC-CCR-MW-65-6318	0.62	98	52	1.9	7.22	7.5	480	1,000	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	290	< 6.0	< 6.0	290	< 6.0	56	--	--	--	3.3	--	--	130
MW-65	CWTP	Downgradient	11/2/2018	FC-CCR-MW65-11218	0.77	100	51	1.9	7.18	7.5	420	940	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	4/1/2019	FC-CCR-MW65-4119	0.58	92	52	1.8	7.20	7.6	400	910	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	290	--	--	290	--	51	0.10	--	< 0.10	3.5	--	--	130
MW-65	CWTP	Downgradient	4/1/2019	*DUP* FC-CCR-FD1-4119	0.57	90	52	1.9	7.20	7.6	390	930	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	300	--	--	300	--	50	0.10	--	< 0.10	3.5	--	--	120
MW-65	CWTP	Downgradient	5/7/2019	FC-CCR-MW65-5719-05	0.60	100	--	1.7	7.13	7.9	--	970	--	--	--	--	--	--	--	1.7	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	12/3/2019	FC-CCR-MW65-120319	0.65	89	--	1.9	7.10	7.6 J	--	850	--	--	--	--	--	--	--	1.9	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	6/19/2020	FC-CCR-MW65-0620	0.57	88	48	1.7	7.18	7.4 J	380	940	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	11/5/2021	FC-CCR-MW65-1121	0.61	87	52	2.1	7.16	7.7 J	350	780	--	--	--	--	--	--	--	2.1	--	--	--	--	< 0.0059 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	6/27/2021	FC-CCR-MW65-0621	0.78	110	71	1.5	7.19	7.7 J	740	1,400	< 0.0010 U	< 0.00050 U	0.012	< 0.001	< 0.0001	< 0.001	0.0020	1.5	< 0.0005	0.061	< 0.0002	0.0072	--	< 0.0001	< 0.7	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--
MW-65	CWTP	Downgradient	7/14/2021	FC-CCR-MW65-0721	0.87	--	--	--	7.40	--	--	--	--	--	--	< 0.001 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	11/15/2021	FC-CCR-MW65-1121	0.73	92	55	1.7	7.14	8.0 J	390	910	< 0.002	< 0.001	0.020	U	< 0.0002	<0.002	0.0022	1.7	< 0.001	0.053	<0.0002	0.0098	<0.001	0.000072 J	<0.6	320	<6	<6	330	<6	53	0.22	0.48	0.26	4.2	<0.3	<0.6	130
MW-65	CWTP	Downgradient	5/20/2022	FC-CCR-MW65-0522	0.85	200	140	1.5	7.27	7.73 J	980	1,900	<0.002	<0.001	0.042	<0.001	<0.0002	<0.002	0.0029	1.5	<0.001	0.081	<0.0002	0.0066	<0.001	<0.0002	1.1	--	--	--	--	--	--	--	--	--	--	<0.4	1.1	--
MW-65	CWTP	Downgradient	8/24/2022	FC-CCR-MW65-0822	0.61	--	--	--	7.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65	CWTP	Downgradient	11/13/2022	FC-CCR-MW65-1122	0.64	93	59	1.8	7.35	7.8 J	300	840	< 0.001	0.00059	0.021	< 0.001	< 0.0001	< 0.001	0.0019	1.8	< 0.0005	0.050	< 0.0002	0.0089	< 0.0005	< 0.0001	< 0.6	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--

Notes:

BTV exceedances are shown in grey shaded cells.

Abbreviations and Data Qualifiers:

< = less than
BTV = Background Threshold Value
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the ana
mg/L = milligrams per liter
NJ = The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
pCi/L = Picocuries per liter
su = standard units

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

Well	Unit	Type	Date	Sample ID	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Iron	Magnesium	Magnesium	Manganese	Potassium	Potassium	Radium 226	Radium 228	Selenium	Sodium	Sodium
					Appendix III Constituents										**Appendix IV Constituents**																							**Additional Analyses**															
				Filtered:	N	Y	N	Y	N	N	N	N	N	N	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	Y
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*3.95*	*454.1*	*454.1*	*604.7*	*2.1*	*6.52-7.88*	*6.52-7.88*	*22,000*	*34,397*	*0.01*	*0.0086*	*0.009*	*0.042*	*0.042*	*0.001*	*0.001*	*0.002*	*0.002*	*0.02*	*0.02*	*0.01*	*0.01*	*5*	*0.01*	*0.01*	*1.8*	*0.0002*	*0.0002*	*0.12*	*0.092*	*0.017*	*4.43*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--	*0.01*	*0.01*	*0.01*	*2*	*2*	*0.004*	*0.004*	*0.005*	*0.005*	*0.1*	*0.1*	*0.01*	*0.01*	*5*	*0.015*	*0.015*	*1.8*	*0.002*	*0.002*	*0.1*	*0.092*	*0.017*	*5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-43	Multiunit 1	Background	11/18/2013	FC-43-111813	**1.2**	--	**530**	--	**750**	< 2.0	--	--	**5,900**	**10,000**	--	**0.0027**	--	--	--	--	--	--	--	**0.0099**	--	--	--	< 2.0	--	--	--	--	--	--	**0.0041**	--	--	**590**	< 6.0	< 6.0	**590**	< 6.0	--	**550**	--	--	**32**	--	--	--	--	**1,900**	--
MW-43	Multiunit 1	Background	9/8/2014	FCPP-43-090814	**1.1**	--	**520**	--	**800**	< 0.40	--	--	**5,900**	**11,000**	--	**0.0020**	--	--	--	--	--	--	--	**0.0085**	--	--	--	< 0.40	--	--	--	--	--	--	< 0.0030	--	--	**570**	< 6.0	< 6.0	**570**	< 6.0	--	**580**	--	--	**30**	--	--	--	--	**2,100**	--
MW-43	Multiunit 1	Background	3/16/2015	FCPP-43-031615	**1.2**	--	**490**	--	**820**	< 0.40	--	--	**6,300**	**11,000**	--	**0.0030**	--	--	--	--	--	--	--	**0.013**	--	--	--	< 0.40	--	--	--	--	--	--	**0.0032**	--	--	**580**	< 6.0	< 6.0	**580**	< 6.0	--	**560**	--	--	**35**	--	--	--	--	**2,000**	--
MW-43	Multiunit 1	Background	12/1/2015	FC-CCR-MW43-120115	**0.91**	--	**470**	--	**720**	< 0.25	--	--	**6,800**	**7,900**	**0.00075**	**0.0027**	--	**0.15**	--	**0.001**	--	**0.00029**	--	**0.0086**	--	**0.0022**	--	< 0.25	**0.0059**	--	**0.29**	< 0.00020	--	**0.0049**	**0.0045**	**0.00019**	--	**680**	< 5.0	--	**680**	--	--	**560**	--	--	**31**	--	**1.81**	**2.73**	--	**1,900**	--
MW-49A	Multiunit 1	Background	9/10/2014	FCPP-49A-091014	**0.78**	--	**180**	--	**1,100**	< 2.0	--	--	**34,000**	**40,000**	--	**0.0013**	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 2.0	--	--	--	--	--	--	**0.0041**	--	--	**930**	< 6.0	< 6.0	**930**	< 6.0	--	**2,200**	--	--	**100**	--	--	--	--	**11,000**	--
MW-49A	Multiunit 1	Background	3/19/2015	FCPP-49A-031915	**0.93**	--	**420**	--	**1,400**	< 2.0	--	--	**34,000**	**51,000**	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	--	< 2.0	--	--	--	--	--	--	< 0.0060	--	--	**1,100**	< 6.0	< 6.0	**1,100**	< 6.0	--	**1,800**	--	--	**82**	--	--	--	--	**11,000**	--
MW-49A	Multiunit 1	Background	7/1/2015	MW-47A	**1.1**	--	**450**	--	**1,500**	< 4.0	--	**7.42**	**32,000**	**52,000**	--	< 0.060	--	--	--	--	--	--	--	< 0.060	--	--	--	< 4.0	--	--	--	--	--	--	< 0.060	--	--	**1,100**	< 6.0	< 6.0	**1,100**	< 6.0	--	**2,000**	--	--	**93**	--	--	--	--	**12,000**	--
MW-49A	Multiunit 1	Background	8/29/2015	FCPP-49A-082915	**0.75**	--	**440**	--	**930**	< 2.0	--	**7.36**	**26,000**	**42,000**	--	< 0.030	--	--	--	--	--	< 0.010	--	< 0.030	--	--	--	< 2.0	--	--	--	--	--	--	< 0.030	--	--	**1,100**	< 6.0	< 6.0	**1,100**	< 6.0	--	**1,800**	--	--	**90**	--	--	--	--	**8,700**	--
MW-49A	Multiunit 1	Background	12/1/2015	FC-CCR-MW49A-120115	**6.0**	--	**440**	--	**340**	< 0.25	--	--	**14,000**	**17,000**	**0.00033**	**0.0016**	--	**0.042**	--	**0.0008**	--	**0.00018**	--	**0.0035**	--	**0.0022**	--	< 0.25	< 0.010	--	**0.75**	**0.00010**	--	**0.096**	**0.0021**	**0.0014**	--	**870**	< 5.0	--	**870**	--	--	**750**	--	--	**54**	--	--	--	--	**4,600**	--
MW-49A	Multiunit 1	Background	12/1/2015	FC-CCR-MW49A-120115	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.528**	**1.34**	--	--	--
MW-49A	Multiunit 1	Background	4/26/2016	FC-CCR-MW-49A-042616	**2.7**	--	**440**	--	**550**	< 2.0	--	--	**18,000**	**30,000**	< 0.0050	< 0.0010	--	**0.025**	--	< 0.0010	--	< 0.00020	--	< 0.0010	--	**0.0023**	--	< 2.0	< 0.0010	--	**1.4**	< 0.00020	--	**0.027**	**0.0020**	**0.0013**	**2.3**	--	--	--	--	--	--	--	--	--	--	--	**0.4**	**1.9**	--	--	--
MW-49A	Multiunit 1	Background	6/7/2016	FC-CCR-MW49A-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.4**	--	--	--	--	--	--	--	--	--	--	--	**0.6**	**1.8**	--	--	--
MW-49A	Multiunit 1	Background	6/7/2016	FC-CCR-MW49A-616	**4.4**	--	**410**	--	**430**	**1.1**	--	**7.44**	**15,000**	**22,000**	**0.00035**	**0.0013**	--	**0.028**	--	< 0.0010	--	**0.00012**	--	**0.00091**	--	**0.0019**	--	**1.1**	< 0.00050	--	**0.90**	< 0.00020	--	**0.069**	**0.0018**	**0.0012**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	8/21/2016	FC-CCR-MW49A-816	**2.3**	--	**390**	--	**560**	< 0.80	--	**7.2**	**20,000**	**29,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	8/21/2016	FC-CCR-MW49A-816	--	--	--	--	--	< 0.80	--	--	--	--	**0.00035**	**0.0011**	--	**0.022**	--	< 0.0010	--	**0.00030**	--	**0.00079**	--	**0.0030**	--	< 0.80	< 0.00050	--	**1.8**	< 0.00020	--	**0.028**	**0.0018**	**0.0015**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	8/21/2016	FC-CCR-MW49A-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.5**	--	--	--	--	--	--	--	--	--	--	--	**0.4**	**3.1**	--	--	--
MW-49A	Multiunit 1	Background	9/13/2016	FC-CCR-MW49A-916	**2.4**	--	**400**	--	**530**	**0.65**	--	**7.4**	**19,000**	**28,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.65**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	9/13/2016	FC-CCR-MW49A-916	--	--	--	--	--	< 0.40	--	--	--	--	< 0.0050	< 0.0040	--	**0.029**	--	< 0.0010	--	< 0.0020	--	< 0.010	--	< 0.0040	--	< 0.40	< 0.0020	--	**1.2**	< 0.00020	--	**0.027**	< 0.012	**0.0020**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	9/13/2016	FC-CCR-MW49A-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.3**	--	--	--
MW-49A	Multiunit 1	Background	10/20/2016	FC-CCR-MW49A-1016	**2.2**	--	**390**	--	**540**	< 0.40	--	**7.5**	**19,000**	**28,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	10/20/2016	FC-CCR-MW49A-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.1**	--	--	--	--	--	--	--	--	--	--	--	**0.4**	**1.7**	--	--	--
MW-49A	Multiunit 1	Background	2/2/2017	FC-CCR-MW49A-117	**2.0**	--	**390**	--	**530**	< 0.40	--	**7.8**	**19,000**	**29,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	**890**	< 6.0	< 6.0	**890**	< 6.0	--	**1,300**	--	--	**77**	--	--	--	--	**6,700**	--
MW-49A	Multiunit 1	Background	2/2/2017	FC-CCR-MW49A-117	--	--	--	--	--	< 0.40	--	--	--	--	< 0.0010	**0.00092**	--	**0.020**	--	< 0.0010	--	**0.00031**	--	**0.00079**	--	**0.0040**	--	< 0.40	< 0.00050	--	**1.4**	< 0.00020	--	**0.042**	**0.0018**	**0.0015**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	2/2/2017	FC-CCR-MW49A-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.4**	--	--	--	--	--	--	--	--	--	--	--	**0.5**	**2.9**	--	--	--
MW-49A	Multiunit 1	Background	4/18/2017	FC-CCR-MW49A-41817	**2.6**	--	**410**	--	**1,000**	< 2.0	--	**7.4**	**20,000**	**29,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--	**900**	< 6.0	< 6.0	**900**	< 6.0	--	**1,400**	--	--	**71**	--	--	--	--	**6,600**	--
MW-49A	Multiunit 1	Background	4/18/2017	FC-CCR-MW49A-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.0**	--	--	--	--	--	--	--	--	--	--	--	**0.6**	**1.4**	--	--	--
MW-49A	Multiunit 1	Background	4/18/2017	FC-CCR-MW49A-41817	--	--	--	--	--	< 2.0	--	--	--	--	< 0.0040	< 0.0020	--	**0.022**	--	< 0.0010	--	< 0.00040	--	< 0.0020	--	**0.0045**	--	< 2.0	< 0.0020	--	**1.3**	< 0.00020	--	**0.028**	< 0.0020	**0.0017**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	5/3/2017	FC-CCR-MW49A-5317	--	--	--	--	--	< 13	--	--	--	--	< 0.0010	**0.00088**	--	**0.022**	--	< 0.0010	--	**0.00023**	--	**0.00065**	--	**0.0037**	--	< 13	< 0.00050	--	**1.1**	< 0.00020	--	**0.025**	**0.0018**	**0.0014**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	5/3/2017	FC-CCR-MW49A-5317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.9**	--	--	--
MW-49A	Multiunit 1	Background	5/30/2017	FC-CCR-MW49A-53017	--	--	--	--	--	< 2.0	--	--	--	--	< 0.0010	**0.0011**	--	**0.022**	--	< 0.0010	--	**0.00024**	--	**0.00069**	--	**0.0036**	--	< 2.0	< 0.00050	--	**1.1**	< 0.00020	--	**0.028**	**0.0017**	**0.0015**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	5/30/2017	FC-CCR-MW49A-53017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.1**	--	--	--	--	--	--	--	--	--	--	--	< 0.5	**2.1**	--	--	--
MW-49A	Multiunit 1	Background	6/22/2017	FC-CCR-MW49A-62217	**2.1**	--	**380**	--	**510**	--	--	**7.5**	**22,000**	**24,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**850**	< 6.0	< 6.0	**850**	< 6.0	--	**1,200**	--	--	**70**	--	--	--	--	**5,700**	--
MW-49A	Multiunit 1	Background	6/22/2017	FC-CCR-MW49A-62217	--	--	--	--	--	< 2.0	--	--	--	--	< 0.0010	**0.0011**	--	**0.021**	--	< 0.0010	--	**0.00024**	--	**0.00088**	--	**0.0039**	--	< 2.0	< 0.00050	--	**1.1**	< 0.00020	--	**0.025**	**0.0017**	**0.0014**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	6/22/2017	FC-CCR-MW49A-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.7**	--	--	--	--	--	--	--	--	--	--	--	**0.5**	**2.2**	--	--	--
MW-49A	Multiunit 1	Background	7/22/2017	FC-CCR-MW49A-72217	**2.2**	--	**390**	--	**520**	< 4.0	--	**7.6**	**18,000**	**25,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	< 4.0	--	--	--	--	--	--	--	--	--	**850**	< 6.0	< 6.0	**850**	< 6.0	--	**1,100**	--	--	**69**	--	--	--	--	**5,700**	--
MW-49A	Multiunit 1	Background	7/22/2017	FC-CCR-MW49A-72217	--	--	--	--	--	--	--	--	--	--	**0.0020**	< 0.0049	--	**0.021**	--	< 0.0010	--	< 0.00023	--	< 0.0087	--	**0.0035**	--	--	< 0.0022	--	**1.1**	< 0.00020	--	**0.025**	**0.0032**	**0.0013**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	7/22/2017	FC-CCR-MW49A-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.6**	--	--	--	--	--	--	--	--	--	--	--	**0.5**	**2.1**	--	--	--
MW-49A	Multiunit 1	Background	8/10/2017	FC-CCR-MW49A-81017	**2.7**	--	**400**	--	**520**	--	--	**7.5**	**18,000**	**23,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**790**	< 6.0	< 6.0	**790**	< 6.0	--	**1,100**	--	--	**70**	--	--	--	--	**5,700**	--
MW-49A	Multiunit 1	Background	8/10/2017	FC-CCR-MW49A-81017	--	--	--	--	--	< 4.0	--	--	--	--	< 0.010	< 0.0020	--	**0.020**	--	< 0.0010	--	< 0.0010	--	< 0.0040	--	**0.0029**	--	< 4.0	< 0.0050	--	**1.1**	< 0.00020	--	**0.029**	< 0.0020	**0.0014**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	8/10/2017	FC-CCR-MW49A-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.7**	--	--	--	--	--	--	--	--	--	--	--	< 0.5	**1.7**	--	--	--
MW-49A	Multiunit 1	Background	8/17/2017	FC-CCR-MW49A-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.0**	--	--	--	--	--	--	--	--	--	--	--	< 0.5	**2.0**	--	--	--
MW-49A	Multiunit 1	Background	8/17/2017	FC-CCR-MW49A-81717	**2.9**	--	**440**	--	**510**	< 4.0	--	**7.5**	**16,000**	**22,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	< 4.0	--	--	--	--	--	--	--	--	--	**750**	< 6.0	< 6.0	**750**	< 6.0	--	**980**	--	--	**84**	--	--	--	--	**5,400**	--
MW-49A	Multiunit 1	Background	9/10/2017	FC-CCR-MW49A-91017	**3.4**	--	**410**	--	**490**	--	--	**7.4**	**16,000**	**22,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**720**	< 6.0	< 6.0	**720**	< 6.0	--	**880**	--	--	**62**	--	--	--	--	**4,900**	--
MW-49A	Multiunit 1	Background	9/10/2017	FC-CCR-MW49A-91017	--	--	--	--	--	< 4.0	--	--	--	--	< 0.0040	< 0.0020	--	**0.020**	--	< 0.0010	--	< 0.00040	--	< 0.0040	--	**0.0026**	--	< 4.0	< 0.0020	--	**0.90**	< 0.00020	--	**0.034**	< 0.0020	**0.0013**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	9/10/2017	FC-CCR-MW49A-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.3**	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**2.3**	--	--	--
MW-49A	Multiunit 1	Background	10/12/2017	FC-CCR-MW49A-101217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.5**	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**2.5**	--	--	--
MW-49A	Multiunit 1	Background	10/12/2017	FC-CCR-MW49A-101217	**3.1**	--	**370**	--	**490**	< 4.0	--	**7.4**	**16,000**	**22,000**	< 0.0040	< 0.0050	--	**0.019**	--	< 0.0010	--	< 0.00040	--	< 0.010	--	< 0.0050	--	< 4.0	< 0.0050	--	**0.92**	< 0.00020	--	**0.032**	< 0.0020	**0.0013**	--	**710**	< 6.0	< 6.0	**710**	< 6.0	--	**790**	--	--	**62**	--	--	--	--	**4,900**	--
MW-49A	Multiunit 1	Background	11/30/2017	FC-CCR-MW49A-113017	**2.2**	--	**420**	--	**560**	< 4.0	--	**7.4**	**17,000**	**23,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	< 4.0	--	--	--	--	--	--	--	--	--	**780**	< 6.0	< 6.0	**780**	< 6.0	--	**1,000**	--	--	**79**	--	--	--	--	**6,100**	--
MW-49A	Multiunit 1	Background	3/17/2018	FC-CCR-MW49A-31718	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--	--	--	--	--	< 0.8	< 0.8	--	--	--
MW-49A	Multiunit 1	Background	6/1/2018	FC-CCR-MW-49A-6118	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--	--	--	--	--	< 0.5	**1.5**	--	--	--
MW-49A	Multiunit 1	Background	6/1/2018	FC-CCR-MW-49A-6118	**2.5**	--	**380**	--	**560**	< 0.80	--	**7.4**	**18,000**	**26,000**	--	< 0.010	--	**0.022**	--	--	--	< 0.0020	--	--	--	< 0.010	--	< 0.80	< 0.010	--	**1.1**	--	--	**0.018**	< 0.010	< 0.0020	--	**750**	< 6.0	< 6.0	**750**	< 6.0	--	**2,800**	--	--	**70**	--	--	--	--	**6,400**	--
MW-49A	Multiunit 1	Background	11/4/2018	FC-CCR-MW49A-11418	**1.8**	--	**380**	--	**590**	< 0.80	--	**7.4**	**19,000**	**27,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	11/4/2018	FC-CCR-MW49A-11418	--	--	--	--	--	--	--	--	--	--	--	**0.0012**	--	**0.020**	--	--	--	**0.00027**	--	--	--	**0.0020**	--	--	< 0.00050	--	**1.2**	--	--	**0.014**	**0.0016**	**0.0016**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	11/4/2018	FC-CCR-MW49A-11418	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	--	--	--	--	< 0.5	**1.4**	--	--	--
MW-49A	Multiunit 1	Background	3/19/2019	FC-CCR-MW49A-031919	--	--	--	--	--	**0.92**	--	--	--	--	< 0.0010	**0.0011**	--	**0.027 J**	--	< 0.0010	--	< 0.00010	--	**0.0036**	--	< 0.00050	--	**0.92**	< 0.00050	--	**0.56**	< 0.00020	--	**0.15**	**0.0018 J**	**0.00083**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	3/19/2019	FC-CCR-MW49A-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.8**	--	--	--	--	--	--	--	--	--	--	--	< 0.5	**0.8**	--	--	--
MW-49A	Multiunit 1	Background	5/14/2019	FC-CCR-MW49A-51419	**7.4**	--	**350**	--	**420**	**1.2**	--	**7.6 J**	**11,000**	**15,000**	--	**0.00068**	--	**0.025**	--	--	--	**0.00011**	--	--	--	< 0.00050	--	**1.2**	< 0.00050	--	**0.71**	--	--	**0.10**	**0.0015**	**0.0011**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	5/14/2019	FC-CCR-MW49A-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
MW-49A	Multiunit 1	Background	11/19/2019	FC-CCR-MW49A-111919	**6.2**	--	**380**	--	**400**	< 0.80	--	**7.5 J**	**12,000**	**18,000**	< 0.0010	**0.0011**	--	**0.022**	--	< 0.0010	--	**0.00025**	--	**0.0020**	--	**0.0010**	--	< 0.80	< 0.00050	--	**0.77**	< 0.00020	--	**0.082**	**0.0010 J**	**0.0013**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49A	Multiunit 1	Background	6/23/2020	FC-CCR-MW49A-0620	**6.3**	--	**430**	--	**720**	< 0.8	**7.01**	**7.6 J**	**13,000**	**17,000**	< 0.001	**0.0012**	--	**0.022**	--	--	--	**0.00015**	--	< 0.001	--	**0.00077**	--	< 0.8	< 0.0005	--	**1.5**	--	--	**0.066**	**0.0017**	**0.0013**	**1.8**	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.8**	--	--	--
MW-49A	Multiunit 1	Background	11/6/2020	FC-CCR-MW49-1120	**5.6**	--	**420**	--	**430**	**0.66 J**	**7.14**	**7.5 J**	**14,000**	**18,000**	**0.00064 J**	**0.0025**	--	< 0.02 U	--	< 0.001	--	**0.00023 J**	--	< 0.002	--	**0.0014**	--	**0.66 J**	< 0.001	--	**0.83**	< 0.0002	--	**0.058**	**0.0056**	**0.0013**	< 0.8	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--	--
MW-49A	Multiunit 1	Background	4/27/2021	FC-CCR-MW49A-0421	**5.2**	--	**420**	--	**440**	**0.47 J**	**7.90**	**7.5 J**	**14,000**	**19,000**	< 0.001 U	< 0.002 U	--	**0.023**	--	< 0.001	--	< 0.0001	--	**0.00082 J**	--	**0.00089**	--	**0.47 J**	< 0.0005	--	**0.90**	< 0.0002	--	**0.051**	**0.0022**	**0.0011**	<0.8	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.8	--	--	--
MW-49A	Multiunit 1	Background	11/15/2021	FC-CCR-MW49A-1121	**5.0**	--	**440**	--	**510**	**0.51 J**	**6.99**	**7.4 J**	**16,000**	**20,000**	**0.00018 J**	< 0.001	--	**0.025**	--	< 0.001	--	**0.00027**	--	**0.0038**	--	**0.0014**	--	**0.51 J**	< 0.001	--	**1.0**	< 0.0002	--	**0.049**	**0.0024**	**0.0014**	**1.3**	--	--	--	--	--	--	--	--	--	--	--	< 0.3	**1.3**	--	--	--
MW-49A	Multiunit 1	Background	5/26/2022	FC-CCR-MW49A-0522	**4.5**	--	**420**	--	**460**	< 0.8	**7.42**	**7.53 J**	**14,000**	**16,000**	< 0.001	< 0.0005	--	**0.023**	--	< 0.001	--	**0.00030**	--	**0.0040**	--	**0.0016**	--	< 0.8	< 0.0005	--	**0.82**	< 0.0002	--	**0.037**	< 0.001	**0.0016**	**0.6 J**	--	--	--	--	--	--	--	--	--	--	--	<0.4	**0.6 J**	--	--	--
MW-49A	Multiunit 1	Background	11/16/2022	FC-CCR-MW49A-1122	**4.2**	--	**420**	--	**510**	< 4	**7.05**	**7.3 J**	**14,000**	**21,000**	< 0.002	**0.0019**	--	**0.025**	--	< 0.001	--	< 0.0002	--	**0.0038**	--	**0.0014**	--	< 4	< 0.001	--	**1.0**	< 0.0002	--	**0.034**	< 0.001	**0.0014**	**0.4**	--	--	--	--	--	--	--	--	--	--	--	**0.4**	< 0.7	--	--	--
MW-50A	Multiunit 1	Background	3/19/2015	FCPP-50A-031915	**3.0**	--	**430**	--	**460**	< 0.40	--	--	**4,800**	**7,700**	--	**0.0010**	--	--	--	--	--	--	--	**0.018**	--	--	--	< 0.40	--	--	--	--	--	--	< 0.0030	--	--	**320**	< 6.0	< 6.0	**320**	< 6.0	--	**380**	--	--	**33**	--	--	--	--	**1,500**	--
MW-50A	Multiunit 1	Background	12/1/2015	FC-CCR-MW50-120115	**2.4**	--	**440**	--	**400**	< 0.25	--	--	**4,800**	**5,600**	**0.0012**	**0.0093**	--	**0.50**	--	**0.0025**	--	**0.00086**	--	**0.11**	--	**0.016**	--	< 0.25	**0.026**	--	**0.40**	**0.00017**	--	**0.0078**	**0.013**	**0.00054**	--	**350**	< 5.0	--	**350**	--	--	**340**	--	--	**37**	--	--	--	--	**1,300**	--
MW-50A	Multiunit 1	Background	12/1/2015	FC-CCR-MW50-120115	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**6.69**	**17.3**	--	--	--
MW-50A	Multiunit 1	Background	2/2/2017	FC-CCR-MW50A-117	**3.1**	--	**410**	--	**440**	**0.52**	--	**7.9**	**4,400**	**7,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.52**	--	--	--	--	--	--	--	--	--	**290**	< 6.0	< 6.0	**290**	< 6.0	--	**320**	--	--	**32**	--	--	--	--	**1,100**	--
MW-50A	Multiunit 1	Background	2/2/2017	FC-CCR-MW50A-117	--	--	--	--	--	< 0.40	--	--	--	--	< 0.0010	**0.0020**	--	**0.11**	--	< 0.0010	--	**0.00074**	--	**0.014**	--	**0.0060**	--	< 0.40	**0.0048**	--	**0.36**	< 0.00020	--	**0.0024**	**0.0018**	**0.00018**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	2/2/2017	FC-CCR-MW74-117	**1.7**	--	**420**	--	**590**	**1.6**	--	**8.0**	**7,600**	**12,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.6**	--	--	--	--	--	--	--	--	--	**380**	< 6.0	< 6.0	**380**	< 6.0	--	**600**	--	--	**26**	--	--	--	--	**2,200**	--
MW-74	Multiunit 1	Background	2/2/2017	FC-CCR-MW74-117	--	--	--	--	--	**1.7**	--	--	--	--	< 0.0020	**0.0035**	--	**0.036**	--	< 0.0010	--	< 0.00020	--	**0.0026**	--	< 0.0010	--	**1.7**	< 0.00050	--	**0.39**	< 0.00020	--	**0.075**	**0.089**	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	2/2/2017	FC-CCR-MW74-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.6**	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.6**	--	--	--
MW-74	Multiunit 1	Background	4/18/2017	FC-CCR-MW74-41817	**1.6**	--	**360**	--	**430**	**1.8**	--	**8.0**	**7,700**	**12,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.8**	--	--	--	--	--	--	--	--	--	**410**	< 6.0	< 6.0	**410**	< 6.0	--	**570**	--	--	**20**	--	--	--	--	**2,100**	--
MW-74	Multiunit 1	Background	4/18/2017	FC-CCR-MW74-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.7**	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.7**	--	--	--
MW-74	Multiunit 1	Background	4/18/2017	FC-CCR-MW74-41817	--	--	--	--	--	**1.6**	--	--	--	--	< 0.0040	**0.0029**	--	**0.018**	--	< 0.0010	--	< 0.00040	--	< 0.0020	--	< 0.0020	--	**1.6**	< 0.0020	--	**0.40**	< 0.00020	--	**0.013**	**0.069**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	5/2/2017	FC-CCR-MW74-5217	--	--	--	--	--	< 13	--	--	--	--	< 0.0020	**0.0028**	--	**0.018**	--	< 0.0010	--	< 0.00020	--	< 0.0010	--	< 0.0010	--	< 13	< 0.0010	--	**0.38**	< 0.00020	--	**0.019**	**0.067**	< 0.00020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	5/2/2017	FC-CCR-MW74-5217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.5**	--	--	--	--	--	--	--	--	--	--	--	**0.5**	< 0.6	--	--	--
MW-74	Multiunit 1	Background	5/29/2017	FC-CCR-MW74-52917	--	--	--	--	--	**1.9**	--	--	--	--	< 0.010	< 0.0050	--	**0.022**	--	< 0.0010	--	< 0.0010	--	< 0.0050	--	< 0.0050	--	**1.9**	< 0.0050	--	**0.37**	< 0.00020	--	**0.028**	**0.062**	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	5/29/2017	FC-CCR-MW74-52917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.1**	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.1**	--	--	--
MW-74	Multiunit 1	Background	6/22/2017	FC-CCR-MW74-62217	**1.6**	--	**420**	--	**410**	--	--	**7.8**	**7,800**	**12,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**440**	< 6.0	< 6.0	**440**	< 6.0	--	**640**	--	--	**22**	--	--	--	--	**2,200**	--
MW-74	Multiunit 1	Background	6/22/2017	FC-CCR-MW74-62217	--	--	--	--	--	**1.9**	--	--	--	--	< 0.0040	**0.0032**	--	**0.020**	--	< 0.0010	--	< 0.00040	--	< 0.0020	--	< 0.0020	--	**1.9**	< 0.0020	--	**0.38**	< 0.00020	--	**0.020**	**0.060**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	6/22/2017	FC-CCR-MW74-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--	--	--
MW-74	Multiunit 1	Background	7/22/2017	FC-CCR-MW74-72217	**1.6**	--	**420**	--	**410**	**1.9**	--	**7.8**	**8,400**	**12,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	--	--	**430**	< 6.0	< 6.0	**430**	< 6.0	--	**710**	--	--	**22**	--	--	--	--	**2,400**	--
MW-74	Multiunit 1	Background	7/22/2017	FC-CCR-MW74-72217	--	--	--	--	--	--	--	--	--	--	< 0.0040	**0.0028**	--	**0.018**	--	< 0.0010	--	< 0.00040	--	< 0.0020	--	< 0.0010	--	--	< 0.0020	--	**0.41**	< 0.00020	--	**0.016**	**0.071**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	7/22/2017	FC-CCR-MW74-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-74	Multiunit 1	Background	8/10/2017	FC-CCR-MW74-81017	**1.5**	--	**420**	--	**420**	--	--	**7.9**	**10,000**	**13,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**420**	< 6.0	< 6.0	**420**	< 6.0	--	**730**	--	--	**22**	--	--	--	--	**2,400**	--
MW-74	Multiunit 1	Background	8/10/2017	FC-CCR-MW74-81017	--	--	--	--	--	**2.0**	--	--	--	--	< 0.010	**0.0022**	--	**0.019**	--	< 0.0010	--	< 0.0010	--	< 0.0040	--	< 0.0020	--	**2.0**	< 0.0050	--	**0.43**	< 0.00020	--	**0.018**	**0.060**	< 0.0010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	8/10/2017	FC-CCR-MW74-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.9**	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.9**	--	--	--
MW-74	Multiunit 1	Background	9/10/2017	FC-CCR-MW74-91017	**1.9**	--	**420**	--	**470**	--	--	**7.7**	**11,000**	**15,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**410**	< 6.0	< 6.0	**410**	< 6.0	--	**1,100**	--	--	**23**	--	--	--	--	**3,200**	--
MW-74	Multiunit 1	Background	9/10/2017	FC-CCR-MW74-91017	--	--	--	--	--	**2.0**	--	--	--	--	< 0.0040	**0.0043**	--	**0.023**	--	< 0.0010	--	< 0.00040	--	< 0.0040	--	< 0.0020	--	**2.0**	< 0.0020	--	**0.48**	< 0.00020	--	**0.024**	**0.092**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	9/10/2017	FC-CCR-MW74-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.7**	--	--	--	--	--	--	--	--	--	--	--	**0.5**	**1.2**	--	--	--
MW-74	Multiunit 1	Background	10/11/2017	FC-CCR-MW74-101117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--	--	--
MW-74	Multiunit 1	Background	10/11/2017	FC-CCR-MW74-101117	**1.3**	--	**380**	--	**490**	**2.1**	--	**7.8**	**13,000**	**18,000**	< 0.010	< 0.0050	--	**0.023**	--	< 0.0010	--	< 0.0010	--	< 0.010	--	< 0.0050	--	**2.1**	< 0.0050	--	**0.48**	< 0.00020	--	**0.023**	**0.081**	< 0.0010	--	**390**	< 6.0	< 6.0	**390**	< 6.0	--	**1,000**	--	--	**22**	--	--	--	--	**2,900**	--
MW-74	Multiunit 1	Background	11/30/2017	FC-CCR-MW74-113017	**1.4**	--	**460**	--	**470**	**1.9**	--	**7.6**	**12,000**	**17,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	--	--	**380**	< 6.0	< 6.0	**380**	< 6.0	--	**1,200**	--	--	**28**	--	--	--	--	**3,500**	--
MW-74	Multiunit 1	Background	3/17/2018	FC-CCR-MW74-31718	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.9	--	--	--	--	--	--	--	--	--	--	--	< 0.9	< 0.8	--	--	--
MW-74	Multiunit 1	Background	6/1/2018	FC-CCR-MW-74-6118	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-74	Multiunit 1	Background	6/1/2018	FC-CCR-MW-74-6118	**1.5**	--	**400**	--	**460**	**2.1**	--	**7.7**	**11,000**	**17,000**	--	< 0.010	--	**0.019**	--	--	--	< 0.0020	--	--	--	< 0.010	--	**2.1**	< 0.010	--	**0.49**	--	--	**0.015**	**0.089**	< 0.0020	--	**450**	< 6.0	< 6.0	**450**	< 6.0	--	**870**	--	--	**22**	--	--	--	--	**3,100**	--
MW-74	Multiunit 1	Background	3/19/2019	FC-CCR-MW74-031919	--	--	--	--	--	**2.4**	--	--	--	--	< 0.0010	**0.0049**	--	**0.014**	--	< 0.0010	--	< 0.00010	--	**0.0063**	--	< 0.00050	--	**2.4**	< 0.00050	--	**0.65**	< 0.00020	--	**0.012**	**0.14**	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	3/19/2019	FC-CCR-MW74-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-74	Multiunit 1	Background	5/13/2019	FC-CCR-MW74-51319	**1.6**	--	**400**	--	**610**	**1.9**	--	**7.7 J**	**16,000**	**23,000**	--	**0.0044**	--	**0.016**	--	--	--	< 0.00010	--	--	--	< 0.00050	--	**1.9**	< 0.00050	--	**0.73**	--	--	**0.017**	**0.14**	**0.00017**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74	Multiunit 1	Background	5/13/2019	FC-CCR-MW74-51319	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
MW-74	Multiunit 1	Background	6/20/2020	FC-CCR-MW74-0620	**2.2**	--	**430**	--	**700**	**1.1**	**7.09**	**7.7 J**	**18,000**	**28,000**	< 0.001	**0.0049**	--	**0.014**	--	--	--	**0.00029**	--	**0.0019**	--	< 0.0005	--	**1.1**	< 0.0005	--	**1.7**	--	--	**0.012**	**0.049**	**0.00022**	< 0.6	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-74	Multiunit 1	Background	4/23/2021	FC-CCR-MW74-0421	**2.0**	--	**460**	--	**850**	**1.5**	**8.00**	**7.7 J**	**22,000**	**31,000**	< 0.002 U	< 0.0035 U	--	**0.015**	--	< 0.001	--	< 0.0002 U	--	**0.0050**	--	**0.00056 J**	--	**1.5**	< 0.002	--	**0.9**	< 0.0002	--	**0.021**	**0.12**	< 0.0004 U	<0.8	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.8	--	--	--
DMX-3	Multiunit 1	Downgradient	4/21/1992	DMX-3 4/21/1992	--	**0.70**	--	**459**	**440**	**0.23**	--	**7.6**	**8,900**	**15,000**	--	--	< 0.005	--	**0.013**	--	< 0.005	--	< 0.005	--	< 0.010	--	< 0.010	**0.23**	--	< 0.010	--	--	< 0.0002	--	--	--	--	--	--	--	**361**	--	--	--	**1,320**	--	--	**36**	--	--	< 0.005	--	**2,180**
DMX-3	Multiunit 1	Downgradient	3/12/2014	FC-DMX3-031214	**1.8**	--	**440**	--	**520**	< 0.80	--	--	**7,500**	**12,000**	--	**0.00020**	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.80	--	--	--	--	--	--	**0.0018**	--	--	**410**	< 6.0	< 6.0	**410**	< 6.0	--	**890**	--	--	**37**	--	--	--	--	**1,500**	--
DMX-3	Multiunit 1	Downgradient	9/11/2014	FCPP-DMX3-91114	**1.7**	--	**450**	--	**650**	< 0.40	--	--	**9,600**	**14,000**	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	--	< 0.40	--	--	--	--	--	--	< 0.0060	--	--	**480**	< 6.0	< 6.0	**480**	< 6.0	--	**1,100**	--	--	**43**	--	--	--	--	**1,900**	--
DMX-3	Multiunit 1	Downgradient	12/8/2014	FCPP-DUP1-12914	**1.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-3	Multiunit 1	Downgradient	12/8/2014	FCPP-DMX03-12914	**1.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-3	Multiunit 1	Downgradient	3/18/2015	FCPP-DMX3-031815	**2.0**	--	**430**	--	**780**	< 0.40	--	--	**11,000**	**16,000**	--	< 0.0050	--	--	--	--	--	--	--	< 0.013	--	--	--	< 0.40	--	--	--	--	--	--	< 0.015	--	--	**580**	< 6.0	< 6.0	**580**	< 6.0	--	**1,300**	--	--	**42**	--	--	--	--	**2,100**	--
DMX-3	Multiunit 1	Downgradient	6/24/2015	DMX-3	**1.5**	--	**410**	--	**810**	< 8.0	--	**7.2**	**5,600**	**17,000**	--	< 0.15	--	--	--	--	--	--	--	< 0.15	--	--	--	< 8.0	--	--	--	--	--	--	< 0.15	--	--	**640**	< 6.0	< 6.0	**640**	< 6.0	--	**1,400**	--	--	**46**	--	--	--	--	**2,100**	--
DMX-3	Multiunit 1	Downgradient	11/5/2015	FC DMX -3-(051115)	**1.4**	--	**440**	--	**850**	< 2.0	--	**7.16**	**11,000**	**17,000**	--	**0.00048**	--	--	--	--	--	< 0.00020	--	< 0.0010	--	--	--	< 2.0	--	--	--	--	--	--	**0.0055**	--	--	**690**	< 6.0	< 6.0	**690**	< 6.0	--	**1,600**	--	--	**45**	--	--	--	--	**2,400**	--
DMX-3	Multiunit 1	Downgradient	6/21/2016	FC-SEEPS-DMX-3-062116	**1.0**	--	**420**	--	**1,000**	< 0.40	--	**7.19**	**11,000**	**19,000**	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--	**780**	< 6.0	< 6.0	**780**	< 6.0	--	**1,600**	--	--	**55**	--	--	--	--	**2,600**	--
DMX-3	Multiunit 1	Downgradient	9/15/2016	FC-Seep-DMX3-916	**0.97**	--	**400**	--	**970**	< 0.40	--	**7.2**	**12,000**	**19,000**	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--	**600**	< 6.0	< 6.0	**600**	< 6.0	--	**1,700**	--	--	**55**	--	--	--	--	**2,800**	--
DMX-3	Multiunit 1	Downgradient	6/22/2020	FC-CCR-DMX03-0620	--	--	--	--	--	--	**6.88**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.001	--	--	--	--	--	--	--	**0.0043**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-3	Multiunit 1	Downgradient	11/7/2020	FC-CCR-DMX03-1120	**0.86**	--	**440**	--	**1,100**	**0.31 J**	**6.98**	**7.5 J**	**13,000 J**	**19,000**	**0.000097 J**	**0.0033**	--	**0.018**	--	< 0.001	--	**0.000078 J**	--	**0.0019**	--	**0.011**	--	**0.31 J**	< 0.001	--	**1.3**	--	--	**0.019**	**0.014**	**0.00035**	< 0.8	**750**	< 6	< 6	**750**	< 6	--	**1,900**	--	--	**66**	--	< 0.4	< 0.8	--	**2,800**	--
DMX-3	Multiunit 1	Downgradient	4/25/2021	FC-CCR-DMX03-0421	**0.92**	--	**470**	--	**1,100 J**	**0.17 J**	**7.64**	**7.4 J**	**13,000**	**20,000**	< 0.004 U	< 0.002	--	**0.018**	--	< 0.001	--	**0.00012 J**	--	< 0.004	--	**0.0015 J**	--	**0.17 J**	**0.0022**	--	**1.2**	--	--	**0.0011 J**	**0.012**	**0.00048**	<0.8	**750**	< 6	< 6	**750**	< 6	**0.44**	**2,000**	--	**0.30**	**72**	--	<0.4	<0.8	--	**3,100**	--
DMX-3	Multiunit 1	Downgradient	11/14/2021	FC-CCR-DMX03	**0.93**	--	**430**	--	**1,300**	< 0.8	**6.84**	**7.4 J**	**15,000**	**39,000**	< 0.002 U	< 0.001	--	**0.018**	--	< 0.001	--	**0.00024**	--	**0.0015 J**	--	**0.0013**	--	< 0.8	< 0.001	--	**1.3**	--	--	**0.00095 J**	**0.0084**	**0.00051**	**1.4**	**950 J**	< 6	< 6	**950 J**	< 6	**0.35**	**2,300**	--	**0.32**	**58**	--	**0.6**	**0.8**	--	**3,600**	--
DMX-3	Multiunit 1	Downgradient	2/1/2022	FC-CCR-DMX03-0222	**0.80**	--	**420**	--	**1,100**	< 0.8	**6.71**	**7.6 J**	**14,000**	**17,000**	--	--	--	--	--	< 0.001	--	--	--	--	--	**0.0012**	--	< 0.8	--	--	**1.3**	--	--	**0.0009**	--	--	--	**880**	< 6	< 6	**880**	< 6	**0.32**	**1,800**	--	--	**56**	--	--	--	--	**2,800**	--
DMX-3	Multiunit 1	Downgradient	5/25/2022	FC-CCR-DMX03-0522	**0.77**	--	**490**	--	**2,200 J**	< 0.8 UJ	**6.74**	**7.53 J**	**28,000**	**21,000**	< 0.002	< 0.001	--	**0.016**	--	< 0.001	--	**0.00026**	--	< 0.002	--	**0.0015**	--	< 0.8 UJ	< 0.001	--	**1.2**	--	--	< 0.001	**0.0075**	**0.00048**	**1.4**	**860**	< 6	< 6	**860**	< 6	**0.24**	**2,000**	--	**0.53**	**66**	--	**0.4**	**1.0**	--	**3,200**	--
DMX-3	Multiunit 1	Downgradient	8/12/2022	FC-CCR-DMX03-0822	**0.77**	--	**450**	--	**1,100**	< 0.8	**6.35**	**7.2 J**	**13,000**	**20,000**	--	--	--	--	--	< 0.001	--	--	--	--	--	**0.0012**	--	< 0.8	--	--	**1.2**	--	--	**0.0011**	--	--	--	**860**	< 6	< 6	**860**	< 6	**0.22**	**1,900**	--	--	**59**	--	--	--	--	**2,800**	--
DMX-3	Multiunit 1	Downgradient	11/11/2022	FC-CCR-DMX03-1122	**0.82**	--	**430**	--	**1,200**	< 0.8	**6.90**	**7.2 J**	**13,000**	**21,000**	< 0.001	< 0.0005	--	**0.017**	--	< 0.001	--	**0.00026**	--	< 0.001	--	**0.0015**	--	< 0.8	< 0.0005	--	**1.3**	--	--	**0.0009**	**0.0076**	**0.00046**	**1.3**	**880**	< 6	< 6	**880**	< 6	**0.41**	**2,000**	--	**0.54**	**62**	--	**0.6**	**0.7**	--	**3,100**	--
DMX-4	Multiunit 1	Downgradient	4/21/1992	DMX-4 4/21/1992	--	**0.47**	--	**433**	**550**	**0.93**	--	**7.8**	**9,400**	**16,000**	--	--	< 0.05	--	**0.011**	--	< 0.005	--	< 0.005	--	< 0.010	--	< 0.010	**0.93**	--	< 0.010	--	--	< 0.0002	--	--	--	--	--	--	--	**396**	--	--	--	**982**	--	--	**32.6**	--	--	< 0.005	--	**3,440**
DMX-4	Multiunit 1	Downgradient	3/18/2015	FCPP-DMX4-031815	**1.0**	--	**430**	--	**460**	< 0.40	--	--	**7,100**	**11,000**	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	--	--	--	< 0.0030	--	--	**350**	< 6.0	< 6.0	**350**	< 6.0	--	**680**	--	--	**32**	--	--	--	--	**1,900**	--
DMX-4	Multiunit 1	Downgradient	6/24/2015	DMX-4	**0.92**	--	**390**	--	**430**	**0.58**	--	**7.51**	**7,000**	**11,000**	--	< 0.030	--	--	--	--	--	--	--	< 0.030	--	--	--	**0.58**	--	--	--	--	--	--	< 0.030	--	--	**340**	< 6.0	< 6.0	**340**	< 6.0	--	**630**	--	--	**32**	--	--	--	--	**1,600**	--
DMX-4	Multiunit 1	Downgradient	8/29/2015	FCPP-DMX4-082915	**0.93**	--	**430**	--	**430**	< 2.0	--	**7.54**	**6,200**	**10,000**	--	< 0.0030	--	--	--	--	--	< 0.0010	--	< 0.0030	--	--	--	< 2.0	--	--	--	--	--	--	**0.0048**	--	--	**330**	< 6.0	< 6.0	**330**	< 6.0	--	**620**	--	--	**34**	--	--	--	--	**1,500**	--
DMX-4	Multiunit 1	Downgradient	11/7/2015	FC DMX-4-(07115)	**1.2**	--	**440**	--	**430**	**0.44**	--	**7.61**	**6,600**	**11,000**	--	< 0.0010	--	--	--	--	--	< 0.00050	--	< 0.0025	--	--	--	**0.44**	--	--	--	--	--	--	< 0.0030	--	--	**330**	< 6.0	< 6.0	**330**	< 6.0	--	**790**	--	--	**34**	--	--	--	--	**1,800**	--
DMX-4	Multiunit 1	Downgradient	11/7/2015	*DUP* FC FD-3-(071115)	**1.3**	--	**490**	--	--	--	--	**7.59**	--	**10,000**	--	< 0.0010	--	--	--	--	--	< 0.00050	--	< 0.0025	--	--	--	--	--	--	--	--	--	--	< 0.0030	--	--	**330**	< 6.0	< 6.0	**330**	< 6.0	--	**900**	--	--	**37**	--	--	--	--	**1,900**	--
DMX-4	Multiunit 1	Downgradient	6/21/2016	FC-SEEPS-DMX-4-062116	**0.93**	--	**420**	--	**450**	**0.89**	--	**7.54**	**6,600**	**11,000**	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	**0.89**	--	--	--	< 0.00020	--	--	--	--	--	**340**	< 6.0	< 6.0	**340**	< 6.0	--	**640**	--	--	**35**	--	--	--	--	**1,600**	--
DMX-4	Multiunit 1	Downgradient	9/15/2016	FC-Seep-DMX4-916	**0.91**	--	**380**	--	**390**	**0.87**	--	**7.5**	**6,300**	**21,000**	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	--	**0.87**	--	--	--	< 0.00020	--	--	--	--	--	**320**	< 6.0	< 6.0	**320**	< 6.0	--	**610**	--	--	**34**	--	--	--	--	**1,600**	--
DMX-4	Multiunit 1	Downgradient	3/19/2019	FC-CCR-DMX4-031919	--	--	--	--	--	< 0.80	--	--	--	--	< 0.0010	**0.00084**	--	**0.0097**	--	< 0.0010	--	< 0.00010	--	< 0.0010	--	**0.0028**	--	< 0.80	< 0.00050	--	**0.66**	< 0.00020	--	**0.016**	**0.0033**	**0.00028**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-4	Multiunit 1	Downgradient	3/19/2019	FC-CCR-DMX4-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
DMX-4	Multiunit 1	Downgradient	5/14/2019	FC-CCR-DMX4-51419	**1.2**	--	**410**	--	**420**	**0.83**	--	**7.6 J**	**6,400**	**11,000**	--	< 0.00050	--	**0.0089**	--	--	--	< 0.00010	--	--	--	**0.00074**	--	**0.83**	< 0.00050	--	**0.65**	--	--	**0.0094**	**0.00069**	**0.00018**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-4	Multiunit 1	Downgradient	5/14/2019	FC-CCR-DMX4-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
DMX-4	Multiunit 1	Downgradient	11/19/2019	FC-CCR-DMX4-111919	**1.3**	--	**420**	--	**510**	< 0.80	--	**7.7 J**	**6,900**	**11,000**	< 0.0010	**0.00069**	--	**0.0088**	--	< 0.0010	--	< 0.00010	--	< 0.0010	--	**0.00093**	--	< 0.80	< 0.00050	--	**0.65**	< 0.00020	--	**0.0077**	**0.0016**	**0.00015**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-4	Multiunit 1	Downgradient	6/22/2020	FC-CCR-DMX04-0620	**1.3**	--	**410**	--	**490**	< 0.8	**7.30**	**7.7 J**	**7,400**	**12,000**	< 0.002	< 0.001	--	**0.0088**	--	--	--	< 0.0002	--	< 0.002	--	< 0.001	--	< 0.8	< 0.001	--	**0.89**	--	--	**0.0080**	**0.0036**	**0.00023**	**0.6**	--	--	--	--	--	--	--	--	--	--	--	**0.6**	< 0.8	--	--	--
DMX-4	Multiunit 1	Downgradient	11/7/2020	FC-CCR-DMX04-1120	**3.1**	--	**410**	--	**770**	**0.92**	**7.38**	**7.7 J**	**9,400**	**15,000**	**0.00028**	**0.0032**	--	**0.0084**	--	< 0.001	--	**0.00018**	--	< 0.004	--	**0.0070**	--	**0.92**	< 0.001	--	**0.67**	--	--	**0.011**	**0.018**	**0.00031**	< 0.8	**410**	< 6	< 6	**410**	< 6	--	**800**	--	--	**42**	--	< 0.4	< 0.8	--	**3,000**	--
DMX-4	Multiunit 1	Downgradient	4/25/2021	FC-CCR-DMX04-0421	**2.7**	--	**440**	--	**660 J**	**0.89**	**8.22**	**7.7 J**	**8,500**	**14,000**	< 0.004 U	< 0.002	--	**0.0078**	--	< 0.001	--	**0.0002 J**	--	< 0.004	--	**0.00058 J**	--	**0.89**	**0.0019 J**	--	**0.66**	--	--	**0.010**	**0.016**	< 0.0004 U	<0.8	**410**	< 6	< 6	**410**	< 6	**0.12**	**840**	--	**0.32**	**47**	--	<0.4	<0.8	--	**2,800**	--
DMX-4	Multiunit 1	Downgradient	11/16/2021	FC-CCR-DMX04-1121	**1.7**	--	**420**	--	**510**	**0.94**	**7.28**	**7.8 J**	**8,000**	**12,000 J**	**0.00034 J**	**0.00099 J**	--	**0.010**	--	< 0.001	--	< 0.0002	--	**0.0011 J**	--	**0.00055 J**	--	**0.94**	< 0.0005	--	**0.62**	--	--	**0.0064**	**0.0035**	**0.00014**	**0.7**	**340**	< 6	< 6	**340**	< 6	**0.089 J**	**750**	--	**0.14**	**35**	--	< 0.4	**0.7**		**1,800**	
DMX-4	Multiunit 1	Downgradient	2/8/2022	FC-CCR-DMX04-0222	**2.2**	--	**440**	--	**490**	**0.69**	**7.24**	**7.8 J**	**7,400**	**11,000**	--	--	--	--	--	< 0.001	--	--	--	--	--	**0.00083**	--	**0.69**	--	--	**0.67**	--	--	**0.0047**	--	--	--	**360**	< 6	< 6	**360**	< 6	**0.11**	**760**	--	--	**36**	--	--	--	--	**1,700**	--
DMX-4	Multiunit 1	Downgradient	5/25/2022	FC-CCR-DMX04-0522	**1.4**	--	**450**	--	**860**	**0.88**	**7.30**	**7.76 J**	**16,000**	**10,000**	< 0.002	< 0.001	--	**0.0087**	--	< 0.001	--	< 0.0002	--	< 0.002	--	< 0.001	--	**0.88**	< 0.001	--	**0.67**	--	--	**0.0061**	< 0.001	< 0.0004	<0.6	**340**	< 6	< 6	**340**	< 6	< 0.1	**780**	--	**0.25**	**37**	--	<0.3	<0.6	--	**1,800**	--
DMX-4	Multiunit 1	Downgradient	8/12/2022	FC-CCR-DMX04-0822	**1.3**	--	**430**	--	**450**	**1.0**	**7.04**	**7.7 J**	**6,700**	**10,000**	--	--	--	--	--	< 0.001	--	--	--	--	--	**0.0005**	--	**1.0**	--	--	**0.66**	--	--	**0.0059**	--	--	--	**350**	< 6	< 6	**350**	< 6	**0.11**	**760**	--	--	**34**	--	--	--	--	**1,600**	--
DMX-4	Multiunit 1	Downgradient	11/14/2022	FC-CCR-DMX04-1122	**1.6**	--	**430**	--	**540**	< 2	**7.48**	**7.6 J**	**7,400**	**12,000**	< 0.001	**0.00059**	--	**0.0086**	--	< 0.001	--	< 0.0001	--	< 0.001	--	**0.0013**	--	< 2	< 0.0005	--	**0.67**	--	--	**0.0089**	**0.0015**	**0.00015**	< 0.6	**370**	< 6	< 6	**370**	< 6	**0.10**	**780**	--	**0.64**	**37**	--	< 0.4	< 0.6	--	**2,000**	--
DMX-6	Multiunit 1	Downgradient	4/21/1992	DMX-6_4/21/1992	--	**5.76**	--	**496**	**330**	**0.26**	--	**7.7**	**4,900**	**8,400**	--	--	< 0.005	--	**0.015**	--	< 0.005	--	< 0.005	--	< 0.010	--	< 0.010	**0.26**	--	< 0.010	--	--	< 0.0002	--	--	--	--	--	--	--	**201**	--	--	--	**565**	--	--	**27.1**	--	--	< 0.005	--	**1,420**
DMX-6	Multiunit 1	Downgradient	3/17/2015	FCPP-DMX6-031715	**9.4**	--	**440**	--	**350**	< 0.80	--	--	**5,600**	**8,600**	--	**0.00024**	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.80	--	--	--	--	--	--	**0.00063**	--	--	**250**	< 6.0	< 6.0	**250**	< 6.0	--	**490**	--	--	**31**	--	--	--	--	**1,400**	--
DMX-6	Multiunit 1	Downgradient	6/24/2015	DMX-6	**4.4**	--	**400**	--	**1,800**	< 8.0	--	**7.12**	**13,000**	**19,000**	--	< 0.060	--	--	--	--	--	--	--	< 0.060	--	--	--	< 8.0	--	--	--	--	--	--	< 0.060	--	--	**710**	< 6.0	< 6.0	**710**	< 6.0	--	**580**	--	--	**53**	--	--	--	--	**5,000**	--
DMX-6	Multiunit 1	Downgradient	8/29/2015	FCPP-DMX6-082915	**7.1**	--	**430**	--	**420**	< 2.0	--	**7.25**	**6,200**	**10,000**	--	< 0.0030	--	--	--	--	--	< 0.0010	--	< 0.0030	--	--	--	< 2.0	--	--	--	--	--	--	**0.0042**	--	--	**290**	< 6.0	< 6.0	**290**	< 6.0	--	**500**	--	--	**39**	--	--	--	--	**1,700**	--
DMX-6	Multiunit 1	Downgradient	11/10/2015	FC DMX-6-(101115)	**7.9**	--	**450**	--	--	--	--	**7.26**	--	**10,000**	--	< 0.0010	--	--	--	--	--	< 0.00050	--	< 0.0025	--	--	--	--	--	--	--	--	--	--	< 0.0030	--	--	**310**	< 6.0	< 6.0	**310**	< 6.0	--	**570**	--	--	**36**	--	--	--	--	**2,000**	--
DMX-6	Multiunit 1	Downgradient	6/22/2016	FC-SEEPS-DMX6-062216	**6.7**	--	**410**	--	**430**	< 0.40	--	**7.32**	**6,000**	**10,000**	--	< 0.005	--	--	--	--	--	--	--	**0.0049**	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--	**310**	< 6.0	< 6.0	**310**	< 6.0	--	**500**	--	--	**36**	--	--	--	--	**1,700**	--
DMX-6	Multiunit 1	Downgradient	9/15/2016	FC-Seep-DMX6-916	**6.7**	--	**390**	--	**650**	< 0.40	--	**7.2**	**7,200**	**11,000**	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--	**370**	< 6.0	< 6.0	**370**	< 6.0	--	**490**	--	--	**39**	--	--	--	--	**2,100**	--
DMX-6	Multiunit 1	Downgradient	3/19/2019	FC-CCR-DMX6-031919	--	--	--	--	--	< 0.80	--	--	--	--	< 0.0010	< 0.00050	--	**0.011**	--	< 0.0010	--	**0.00015**	--	< 0.0010	--	**0.0011**	--	< 0.80	< 0.00050	--	**1.0**	< 0.00020	--	**0.051**	**0.00050**	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-6	Multiunit 1	Downgradient	3/19/2019	FC-CCR-DMX6-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
DMX-6	Multiunit 1	Downgradient	5/14/2019	FC-CCR-DMX6-51419	**5.5**	--	**330**	--	**880**	< 0.80	--	**7.2 J**	**8,100**	**13,000**	--	< 0.00050	--	**0.0097**	--	--	--	**0.00011**	--	--	--	**0.00088**	--	< 0.80	< 0.00050	--	**0.90**	--	--	**0.020**	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-6	Multiunit 1	Downgradient	5/14/2019	FC-CCR-DMX6-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
DMX-6	Multiunit 1	Downgradient	11/19/2019	FC-CCR-DMX6-111919	**6.1**	--	**360**	--	**710**	< 0.80	--	**7.2 J**	**7,300**	**12,000**	< 0.0010	< 0.0010	--	**0.0090**	--	< 0.0010	--	**0.00031**	--	< 0.0010	--	**0.00094**	--	< 0.80	< 0.00050	--	**0.81**	< 0.00020	--	**0.017**	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DMX-6	Multiunit 1	Downgradient	6/23/2020	FC-CCR-DMX06-0620	**6.0**	--	**350**	--	**880**	< 0.8	**6.77**	**7.3 J**	**8,000**	**13,000**	< 0.002	< 0.001	--	**0.010**	--	--	--	**0.00027**	--	< 0.002	--	< 0.001	--	< 0.8	< 0.001	--	**1.2**	--	--	**0.0080**	< 0.001	< 0.0002	**0.6**	**480**	< 6	< 6	**480**	< 6	--	**510**	--	--	**48**	--	**0.6**	< 0.8	--	**3,100**	--
DMX-6	Multiunit 1	Downgradient	11/6/2020	FC-CCR-DMX06-1120	**5.0**	--	**330**	--	**1,100**	**0.53**	**6.90**	**7.3 J**	**9,100**	**14,000**	**0.0001**	**0.0023**	--	**0.012**	--	< 0.001	--	**0.000076**	--	**0.0026**	--	**0.0067**	--	**0.53**	< 0.001	--	**1.0**	--	--	**0.0045**	**0.0029**	**0.000044**	< 0.8	**570**	< 6	< 6	**570**	< 6	--	**490**	--	--	**46**	--	< 0.4	< 0.8	--	**3,700**	--
DMX-6	Multiunit 1	Downgradient	4/27/2021	FC-CCR-DMX06-0421	**6.5**	--	**410**	--	**630 J**	**0.36 J**	**7.71**	**7.3 J**	**6,900**	**12,000**	< 0.004 U	< 0.002	--	**0.013**	--	< 0.001	--	**0.00022 J**	--	< 0.004	--	**0.00046 J**	--	**0.36 J**	**0.0018 J**	--	**0.76**	--	--	**0.0032**	**0.0029**	< 0.0004 U	<0.8	**430**	< 6	< 6	**430**	< 6	**0.10**	**610**	--	**0.76**	**46**	--	<0.4	<0.8	--	**2,300**	--
DMX-6	Multiunit 1	Downgradient	11/18/2021	FC-CCR-DMX06-1121	**5.6**	--	**380**	--	**910**	**0.27 J**	**6.87**	**7.5 J**	**9,100**	**12,000**	< 0.002 U	**0.00062 J**	--	**0.011**	--	< 0.001	--	**0.00019 J**	--	**0.0019 J**	--	**0.00054 J**	--	**0.27 J**	< 0.0005	--	**0.89**	--	--	**0.0047**	**0.0034**	**0.000073 J**	< 0.6	**440**	< 6	< 6	**440**	< 6	**0.085 J**	**560**	--	**0.84**	**42**	--	< 0.4	< 0.6	--	**2,700**	--
DMX-6	Multiunit 1	Downgradient	2/8/2022	FC-CCR-DMX06-0222	**5.7**	--	**390**	--	**820**	**0.29**	**6.75**	**7.5 J**	**8,200**	**13,000**	--	--	--	--	--	< 0.001	--	--	--	--	--	**0.00065**	--	**0.29**	--	--	**0.93**	--	--	**0.0035**	--	--	--	**460**	< 6	< 6	**460**	< 6	**0.11**	**580**	--	--	**44**	--	--	--	--	**2,700**	--
DMX-6	Multiunit 1	Downgradient	5/24/2022	FC-CCR-DMX06-0522	**5.5**	--	**350**	--	**750**	< 0.8	**6.89**	**7.47 J**	**7,500**	**12,000**	< 0.001	< 0.001	--	**0.010**	--	< 0.001	--	**0.00015**	--	**0.0021**	--	**0.00062**	--	< 0.8	< 0.001	--	**0.87**	--	--	**0.0038**	**0.0025**	< 0.0004	<0.6	**440**	< 6	< 6	**440**	< 6	< 0.1	**540 / 560**	--	**0.79**	**41**	--	<0.3	<0.6	--	**2,600**	--
DMX-6	Multiunit 1	Downgradient	8/13/2022	FC-CCR-DMX06-0822	**5.9**	--	**400**	--	**670**	< 0.8	**6.94**	**7.2 J**	**7,300**	**11,000**	--	--	--	--	--	< 0.001	--	--	--	--	--	**0.00056**	--	< 0.8	--	--	**0.79**	--	--	**0.0028**	--	--	--	**400**	< 6	< 6	**400**	< 6	< 0.1	**600**	--	--	**38**	--	--	--	--	**2,300**	--

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

Appendix III Constituents

Well	Unit	Gradient	Date	Sample ID	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
				Filtered:	N	Y	N	Y	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*3.95*	*454.1*	*454.1*	*604.7*	*2.1*	*6.52-7.88*	*6.52-7.88*	*22,000*	*34,397*
				Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--
DMX-6	Multiunit 1	Downgradient	11/16/2022	FC-CCR-DMX06-1122	5.6	--	380	--	830	< 4	6.95	7.1 J	7,500	12,000
MW-05	Multiunit 1	Downgradient	4/1/1987	MW-5_4/1/1987	--	1.0	--	480	1,900	0.60	7.40	7.1	15,000	20,000
MW-05	Multiunit 1	Downgradient	10/2/1987	MW-5_10/2/1987	--	0.94	--	460	1,800	< 0.5	7.32	7.4	16,000	27,000
MW-05	Multiunit 1	Downgradient	6/14/1988	MW-5-19880614	--	--	452	--	1,644	0.90	7.09	--	12,777	22,543
MW-05	Multiunit 1	Downgradient	9/21/1988	MW-5-19880921	1.0	--	433	--	1,583	1.1	7.04	--	12,922	25,575
MW-05	Multiunit 1	Downgradient	11/28/1988	MW-5-19881128	1.0	--	429	--	1,727	0.80	7.06	--	15,345	23,120
MW-05	Multiunit 1	Downgradient	2/28/1989	MW-5-19890228	1.0	--	440	--	1,430	0.90	7.20	--	13,713	23,010
MW-05	Multiunit 1	Downgradient	9/11/1989	MW-5-19890911	1.0	--	465	--	1,491	1.0	7.0	--	13,185	23,710
MW-05	Multiunit 1	Downgradient	3/22/1990	MW-5-19900322	1.0	--	500	--	1,261	0.80	7.10	--	12,903	23,200
MW-05	Multiunit 1	Downgradient	10/30/1990	MW-5-19901030	1.0	--	420	--	1,047	0.30	7.05	--	13,120	19,533
MW-05	Multiunit 1	Downgradient	4/4/1991	MW-5-19910404	1.0	--	400	--	1,048	0.30	6.94	--	13,185	19,930
MW-05	Multiunit 1	Downgradient	9/30/1991	MW-5-19910930	1.0	--	390	--	955	0.30	7.21	--	12,500	19,320
MW-05	Multiunit 1	Downgradient	4/15/1992	MW-5-19920415	1.0	--	420	--	1,151	0.40	7.20	--	12,680	21,150
MW-05	Multiunit 1	Downgradient	11/3/1992	MW-5-19921103	1.0	--	400	--	1,803	0.30	6.96	--	14,184	24,840
MW-05	Multiunit 1	Downgradient	6/22/1993	MW-5-19930622	0.60	--	380	--	927	0.40	6.98	--	11,436	19,210
MW-05	Multiunit 1	Downgradient	11/30/1993	MW-5-19931130	1.0	--	400	--	810	0.30	6.99	--	11,810	18,610
MW-05	Multiunit 1	Downgradient	5/10/1994	MW-5-19940510	1.0	--	420	--	931	0.40	7.08	--	11,670	19,240
MW-05	Multiunit 1	Downgradient	11/8/1994	MW-5-19941108	1.0	--	400	--	943	0.30	7.10	--	10,944	18,670
MW-05	Multiunit 1	Downgradient	4/6/1995	MW-5-19950406	1.0	--	420	--	929	0.30	7.02	--	10,568	19,370
MW-05	Multiunit 1	Downgradient	12/13/1995	MW-5-19951213	0.89	--	400	--	900	0.30	7.07	--	11,068	18,090
MW-05	Multiunit 1	Downgradient	8/15/1996	MW-5-19960815	0.67	--	360	--	762	0.20	7.02	--	9,929	17,210
MW-05	Multiunit 1	Downgradient	4/15/1997	MW-5-19970415	0.99	--	360	--	759.8	0.20	7.37	--	9,614	17,380
MW-05	Multiunit 1	Downgradient	10/13/1997	MW-5-19971013	< 0.05	--	400	--	786.2	0.20	7.20	--	9,887	16,050
MW-05	Multiunit 1	Downgradient	4/14/1998	MW-5-19980414	--	--	420	--	774.2	0.20	6.86	--	9,217	16,410
MW-05	Multiunit 1	Downgradient	10/20/1998	MW-5-19981020	1.02	--	380	--	850.6	0.20	7.16	--	10,063	16,600
MW-05	Multiunit 1	Downgradient	6/8/1999	MW-5-19990608	1.8	--	420	--	889.6	0.30	7.04	--	9,983	17,740
MW-05	Multiunit 1	Downgradient	12/1/1999	MW-5-19991201	1.6	--	440	--	747.4	0.30	7.02	--	8,913	18,140
MW-05	Multiunit 1	Downgradient	5/30/2000	MW-5-20000530	1.83	--	430	--	1,220	0.30	6.96	--	12,493	16,900
MW-05	Multiunit 1	Downgradient	11/14/2000	MW-5-20001114	2.02	--	40	--	754.2	0.2972	7.01	--	8,457	16,410
MW-05	Multiunit 1	Downgradient	8/21/2001	MW-5-20010821	1.61	--	400	--	823.8	0.30	6.94	--	8,732	15,320
MW-05	Multiunit 1	Downgradient	12/4/2001	MW-5-20011204	1.4	--	440	--	781	0.30	6.80	--	9,030	15,300
MW-05	Multiunit 1	Downgradient	6/11/2002	MW-5-20020611	1.6	--	400	--	857	0.40	7.05	--	8,785	16,320
MW-05	Multiunit 1	Downgradient	12/18/2002	MW-5-20021218	1.57	--	380	--	809.4	0.30	7.07	--	8,517	16,310
MW-05	Multiunit 1	Downgradient	5/28/2003	MW-5-20030528	1.84	--	400	--	899.2	0.20	6.92	--	8,022	10,180
MW-05	Multiunit 1	Downgradient	12/15/2003	MW-5-20031215	0.90	--	320	--	791.4	0.29	6.97	--	8,312	15,850
MW-05	Multiunit 1	Downgradient	6/18/2004	MW-5-20040618	--	--	400	--	862.2	0.30	6.97	--	8,886	47,050
MW-05	Multiunit 1	Downgradient	11/30/2004	MW-5-20041130	1.3	--	440	--	875.6	0.30	7.10	--	6,119	16,360
MW-05	Multiunit 1	Downgradient	5/11/2005	MW-5-20050511	0.952	--	440	--	860.4	0.20	6.76	--	8,955	15,920
MW-05	Multiunit 1	Downgradient	12/12/2005	MW-5-20051212	0.841	--	445	--	958.4	0.30	7.10	--	9,241	16,780
MW-05	Multiunit 1	Downgradient	5/15/2006	MW-5-20060515	0.837	--	444	--	977	0.226	7.01	--	11,400	17,200
MW-05	Multiunit 1	Downgradient	10/13/2006	MW-5-20061013	0.997	--	476	--	852	0.219	6.96	--	10,000	17,300
MW-05	Multiunit 1	Downgradient	4/19/2007	MW-5-20070419	0.97	--	429	--	836	0.133	7.00	--	9,120	16,500
MW-05	Multiunit 1	Downgradient	11/20/2007	MW-5-20071120	0.743	--	348	--	1,040	0.30	7.00	--	9,800	18,100
MW-05	Multiunit 1	Downgradient	5/8/2008	MW-5-20080508	0.50	--	356	--	1,010	0.30	7.03	--	10,900	17,770
MW-05	Multiunit 1	Downgradient	9/27/2012	MW-5-092712-01	1.2	--	420	--	3,300	< 4.0	--	--	14,000	24,000
MW-05	Multiunit 1	Downgradient	9/10/2014	FCPP-05-091014	1.1	--	420	--	3,800	< 0.80	--	--	17,000	25,000
MW-05	Multiunit 1	Downgradient	3/18/2015	FCPP-05-031815	1.2	--	450	--	3,400	< 0.80	--	--	14,000	24,000
MW-05	Multiunit 1	Downgradient	6/30/2015	MW-5	1.2	--	420	--	3,100	< 4.0	--	7.0	13,000	21,000
MW-05	Multiunit 1	Downgradient	8/25/2015	FCPP-5-082515	1.2	--	450	--	3,400	< 4.0	--	6.98	13,000	26,000
MW-05	Multiunit 1	Downgradient	11/6/2015	FC MW-5-(061115)	1.1	--	450	--	2,300	< 4.0	--	6.93	13,000	22,000
MW-05	Multiunit 1	Downgradient	6/17/2016	FC-Seep-MW5-616	1.0	--	460	--	3,000	< 0.80	--	7.27	14,000	23,000
MW-05	Multiunit 1	Downgradient	6/17/2016	FC-Seep-Dup1-616	0.98	--	450	--	3,000	< 0.80	--	7.27	14,000	25,000
MW-05	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW5-916	1.0	--	440	--	2,900	< 2.0	--	7.0	14,000	25,000
MW-05	Multiunit 1	Downgradient	6/22/2020	FC-CCR-MW05-0620	--	--	--	--	--	--	6.64	--	--	--
MW-05	Multiunit 1	Downgradient	11/7/2020	FC-CCR-MW05-1120	1.2	--	--	--	--	--	6.71	--	--	--
MW-05	Multiunit 1	Downgradient	4/25/2021	FC-CCR-MW05-0421	1.2	--	510	--	4,400 J	0.52 J	7.33	7.2 J	15,000	26,000
MW-05	Multiunit 1	Downgradient	11/16/2021	FC-CCR-MW05-1121	1.2	--	510	--	8,100	0.51 J	6.58	7.2 J	27,000	28,000 J
MW-05	Multiunit 1	Downgradient	2/1/2022	FC-CCR-MW05-0222	1.1	--	460	--	8,200	< 0.8	6.54	7.5 J	13,000	22,000
MW-05	Multiunit 1	Downgradient	5/25/2022	FC-CCR-MW05-0522	1.1	--	530	--	8,700	< 0.8	6.62	7.49 J	34,000	20,000
MW-05	Multiunit 1	Downgradient	8/12/2022	FC-CCR-MW05-0822	1.2	--	520	--	4,200	0.85	6.32	7.0 J	14,000	27,000
MW-05	Multiunit 1	Downgradient	11/11/2022	FC-CCR-MW05-1122	1.2	--	520	--	4,200	< 4	6.79	7.0 J	15,000	27,000
MW-06	Multiunit 1/EW	Downgradient	4/1/1987	MW-6_4/1/1987	--	0.70	--	430	420	< 0.5	7.60	7.4	9,000	11,000
MW-06	Multiunit 1/EW	Downgradient	9/30/1987	MW-6_9/30/1987	--	0.60	--	410	410	< 0.5	7.60	7.6	8,500	13,000
MW-06	Multiunit 1/EW	Downgradient	6/15/1988	MW-6-19880615	--	--	396	--	469	0.60	7.29	--	8,590	13,690
MW-06	Multiunit 1/EW	Downgradient	9/21/1988	MW-6-19880921	1.0	--	370	--	374	0.50	7.03	--	7,922	13,885
MW-06	Multiunit 1/EW	Downgradient	11/29/1988	MW-6-19881129	1.0	--	389	--	397	0.40	7.26	--	8,366	13,535
MW-06	Multiunit 1/EW	Downgradient	2/27/1989	MW-6-19890227	1.0	--	397	--	375	0.40	7.29	--	8,201	13,195
MW-06	Multiunit 1/EW	Downgradient	9/12/1989	MW-6-19890912	1.0	--	340	--	369	0.30	7.25	--	7,022	12,370
MW-06	Multiunit 1/EW	Downgradient	3/26/1990	MW-6-19900326	1.0	--	370	--	397	0.30	7.40	--	7,699	12,190
MW-06	Multiunit 1/EW	Downgradient	10/30/1990	MW-6-19901030	1.0	--	380	--	396	0.20	7.35	--	7,792	11,898
MW-06	Multiunit 1/EW	Downgradient	4/2/1991	MW-6-19910402	1.0	--	370	--	394	0.20	7.37	--	7,532	14,600
MW-06	Multiunit 1/EW	Downgradient	9/24/1991	MW-6-19910924	1.0	--	356	--	396	0.20	7.41	--	7,174	11,860
MW-06	Multiunit 1/EW	Downgradient	5/5/1992	MW-6-19920505	1.0	--	350	--	391.1	0.20	7.54	--	7,040	11,550
MW-06	Multiunit 1/EW	Downgradient	11/27/1992	MW-6-19921127	1.0	--	360	--	411.6	0.30	7.29	--	8,030	12,060
MW-06	Multiunit 1/EW	Downgradient	4/21/1993	MW-6-19930421	0.76	--	360	--	495	0.30	7.20	--	8,506	12,960
MW-06	Multiunit 1/EW	Downgradient	11/22/1993	MW-6-19931122	1.0	--	380	--	360	0.20	7.31	--	6,894	11,130
MW-06	Multiunit 1/EW	Downgradient	4/20/1994	MW-6-19940420	1.0	--	390	--	391	0.40	7.33	--	6,742	11,520
MW-06	Multiunit 1/EW	Downgradient	9/20/1994	MW-6-19940920	1.0	--	370	--	389	0.20	7.35	--	6,754	11,260
MW-06	Multiunit 1/EW	Downgradient	12/14/1994	MW-6-19941214	--	--	410	--	--	--	7.28	--	--	--
MW-06	Multiunit 1/EW	Downgradient	4/5/1995	MW-6-19950405	1.0	--	360	--	421	0.20	7.30	--	6,826	11,120
MW-06	Multiunit 1/EW	Downgradient	11/21/1995	MW-6-19951121	1.78	--	400	--	384	0.20	7.37	--	6,426	10,680
MW-06	Multiunit 1/EW	Downgradient	8/14/1996	MW-6-19960814	1.53	--	310	--	338.3	0.20	7.37	--	6,500	10,830
MW-06	Multiunit 1/EW	Downgradient	4/23/1997	MW-6-19970423	1.97	--	300	--	426.5	0.20	7.32	--	6,406	11,110
MW-06	Multiunit 1/EW	Downgradient	10/14/1997	MW-6-19971014	< 0.05	--	380	--	393.7	0.10	7.52	--	6,250	9,920
MW-06	Multiunit 1/EW	Downgradient	10/21/1998	MW-6-19981021	3.15	--	370	--	395	0.20	7.28	--	6,342	10,060
MW-06	Multiunit 1/EW	Downgradient	6/9/1999	MW-6-19990609	4.0	--	390	--	374.8	0.20	7.35	--	6,130	10,390
MW-06	Multiunit 1/EW	Downgradient	12/1/1999	MW-6-19991201	4.2	--	480	--	345.3	0.20	7.51	--	5,662	9,570
MW-06	Multiunit 1/EW	Downgradient	6/8/2000	MW-6-20000608	3.83	--	423	--	522	0.20	7.43	--	6,873	9,680
MW-06	Multiunit 1/EW	Downgradient	11/28/2000	MW-6-20001128	4.19	--	490	--	329.9	0.1855	7.20	--	5,790	9,840
MW-06	Multiunit 1/EW	Downgradient	8/21/2001	MW-6-20010821	--	--	450	--	376	0.20	7.24	--	6,090	10,110
MW-06	Multiunit 1/EW	Downgradient	12/3/2001	MW-6-20011203	4.4	--	490	--	334.5	0.20	7.26	--	5,839	9,440
MW-06	Multiunit 1/EW	Downgradient	6/24/2002	MW-6-20020624	4.43	--	400	--	323.9	0.10	7.50	--	5,592	9,790
MW-06	Multiunit 1/EW	Downgradient	12/18/2002	MW-6-20021218	6.0	--	380	--	320.3	0.20	7.56	--	5,507	9,520
MW-06	Multiunit 1/EW	Downgradient	6/3/2003	MW-6-20030603	--	--	400	--	352.6	0.28	7.30	--	5,253	9,590
MW-06	Multiunit 1/EW	Downgradient	9/24/2003	MW-6-20030924	5.94	--	330	--	311	0.22	7.27	--	5,505	9,500
MW-06	Multiunit 1/EW	Downgradient	6/16/2004	MW-6-20040616	--	--	40	--	353.6	0.20	7.25	--	5,658	9,310
MW-06	Multiunit 1/EW	Downgradient	11/9/2004	MW-6-20041109	9.1	--	425	--	304	< 0.2	7.38	--	4,870	8,810
MW-06	Multiunit 1/EW	Downgradient	5/12/2005	MW-6-20050512	9.47	--	450	--	321.9	0.10	7.30	--	5,588	8,580
MW-06	Multiunit 1/EW	Downgradient	11/1/2005	MW-6-20051101	11.1	--	404	--	316.4	0.10	7.19	--	4,881	8,990
MW-06	Multiunit 1/EW	Downgradient	5/16/2006	MW-6-20060516	12.4	--	419	--	314	0.15	7.23	--	5,100	8,500
MW-06	Multiunit 1/EW	Downgradient	10/13/2006	MW-6-20061013	14.1	--	454	--	318	0.149	7.33	--	5,590	7,920
MW-06	Multiunit 1/EW	Downgradient	4/18/2007	MW-6-20070418	30.9	--	422	--	352	0.112	7.35	--	5,370	8,050
MW-06	Multiunit 1/EW	Downgradient	11/20/2007	MW-6-20071120	13.5	--	378	--	352	0.20	7.42	--	5,100	8,070
MW-06	Multiunit 1/EW	Downgradient	8/1/2008	MW-6-20080801	13.9	--	389	--	400	< 0.2	7.45	--	5,450	8,120
MW-06	Multiunit 1/EW	Downgradient	12/3/2009	MW-6-20091203	10.1	--	377	--	680	0.30	7.13	--	7,100	11,700
MW-06	Multiunit 1/EW	Downgradient	9/28/2012	MW-6-092812-01	21	--	440	--	650	< 2.0	--	--	4,200	7,700
MW-06	Multiunit 1/EW	Downgradient	11/20/2013	FC-06-112013	9.3	--	480	--	1,100	< 2.0	--	--	9,400	15,000
MW-06	Multiunit 1/EW	Downgradient	3/12/2014	FC-06-031214	8.2	--	430	--	1,100	< 0.80	--	--	9,300	14,000
MW-06	Multiunit 1/EW	Downgradient	9/11/2014	FCPP-06-91114	9.1	--	400	--	1,200	< 0.40	--	--	9,400	15,000
MW-06	Multiunit 1/EW	Downgradient	12/8/2014	FCPP-MW06-12914	8.4	--	--	--	--	--	--	--	--	--
MW-06	Multiunit 1/EW	Downgradient	3/19/2015	FCPP-06-031915	10	--	430	--	1,300	< 0.40	--	--	9,700	15,000
MW-06	Multiunit 1/EW	Downgradient	6/24/2015	MW-6	9.6	--	410	--	1,400	< 0.40	--	7.17	9,400	16,000
MW-06	Multiunit 1/EW	Downgradient	8/29/2015	FCPP-06-082915	12	--	440	--	1,100	< 2.0	--	7.16	8,300	14,000

Appendix IV Constituents

Date	Sample ID	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Mercury	Molybdenum	Selenium	Thallium	Total Radium
	Filtered:	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	Y	N	N	Y	N	N	N	N
	Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
	Multiunit 1 BTV	*0.01*	*0.0086*	*0.009*	*0.042*	*0.042*	*0.001*	*0.001*	*0.002*	*0.002*	*0.02*	*0.02*	*0.01*	*0.01*	*5*	*0.01*	*0.01*	*1.8*	*0.0002*	*0.0002*	*0.12*	*0.092*	*0.017*	*4.43*
	Multiunit 1 GWPS	*0.01*	*0.01*	*0.01*	*2*	*2*	*0.004*	*0.004*	*0.005*	*0.005*	*0.1*	*0.1*	*0.01*	*0.01*	*5*	*0.015*	*0.015*	*1.8*	*0.002*	*0.002*	*0.1*	*0.092*	*0.017*	*5*
11/16/2022	FC-CCR-DMX06-1122	< 0.001	< 0.0005	--	0.011	--	< 0.001	--	< 0.0001	--	0.0030	--	0.00063	--	< 4	< 0.0005	--	0.88	--	--	0.0042	0.0016	< 0.0001	0.8
4/1/1987	MW-5_4/1/1987	--	--	< 0.05	--	< 0.005	--	--	--	< 0.005	--	< 0.005	--	--	0.60	--	< 0.05	--	--	< 0.0001	--	--	--	--
10/2/1987	MW-5_10/2/1987	--	--	< 0.05	--	0.29	--	--	--	< 0.005	--	< 0.005	--	--	< 0.5	--	0.080	--	--	< 0.0001	--	--	--	--
6/14/1988	MW-5-19880614	--	--	--	--	--	--	--	--	--	--	--	--	--	0.90	--	--	--	< 0.001	--	--	--	--	--
9/21/1988	MW-5-19880921	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--
11/28/1988	MW-5-19881128	--	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	--	--	--	--	--	--	--	--
2/28/1989	MW-5-19890228	--	--	--	--	--	--	--	--	--	--	--	--	--	0.90	--	--	--	--	--	--	--	--	--
9/11/1989	MW-5-19890911	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--
3/22/1990	MW-5-19900322	--	--	--	--	--	--	--	--	--	--	--	--	--	0.80	--	--	--	--	--	--	--	--	--
10/30/1990	MW-5-19901030	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
4/4/1991	MW-5-19910404	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
9/30/1991	MW-5-19910930	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
4/15/1992	MW-5-19920415	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
11/3/1992	MW-5-19921103	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
6/22/1993	MW-5-19930622	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
11/30/1993	MW-5-19931130	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
5/10/1994	MW-5-19940510	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
11/8/1994	MW-5-19941108	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
4/6/1995	MW-5-19950406	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
12/13/1995	MW-5-19951213	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
8/15/1996	MW-5-19960815	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
4/15/1997	MW-5-19970415	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
10/13/1997	MW-5-19971013	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
4/14/1998	MW-5-19980414	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
10/20/1998	MW-5-19981020	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
6/8/1999	MW-5-19990608	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
12/1/1999	MW-5-19991201	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
5/30/2000	MW-5-20000530	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
11/14/2000	MW-5-20001114	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2972	--	--	--	--	--	--	--	--	--
8/21/2001	MW-5-20010821	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
12/4/2001	MW-5-20011204	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
6/11/2002	MW-5-20020611	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
12/18/2002	MW-5-20021218	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
5/28/2003	MW-5-20030528	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
12/15/2003	MW-5-20031215	--	--	--	--	--	--	--	--	--	--	--	--	--	0.29	--	--	--	--	--	--	--	--	--
6/18/2004	MW-5-20040618	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
11/30/2004	MW-5-20041130	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
5/11/2005	MW-5-20050511	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
12/12/2005	MW-5-20051212	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
5/15/2006	MW-5-20060515	--	--	--	--	--	--	--	--	--	--	--	--	--	0.226	--	--	--	--	--	--	--	--	--
10/13/2006	MW-5-20061013	--	--	--	--	--	--	--	--	--	--	--	--	--	0.219	--	--	--	--	--	--	--	--	--
4/19/2007	MW-5-20070419	--	--	--	--	--	--	--	--	--	--	--	--	--	0.133	--	--	--	--	--	--	--	--	--
11/20/2007	MW-5-20071120	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
5/8/2008	MW-5-20080508	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
9/27/2012	MW-5-092712-01	--	< 0.0010	--	--	--	--	--	--	--	< 0.0010	--	--	--	< 4.0	--	--	--	--	--	--	0.0015	--	--
9/10/2014	FCPP-05-091014	--	< 0.00040	--	--	--	--	--	--	--	< 0.0010	--	--	--	< 0.80	--	--	--	--	--	--	< 0.0012	--	--
3/18/2015	FCPP-05-031815	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.80	--	--	--	--	--	--	< 0.0030	--	--
6/30/2015	MW-5	--	< 0.012	--	--	--	--	--	--	--	< 0.012	--	--	--	< 4.0	--	--	--	--	--	--	< 0.012	--	--
8/25/2015	FCPP-5-082515	--	< 0.030	--	--	--	--	--	--	--	< 0.030	--	--	--	< 4.0	--	--	--	--	--	--	< 0.030	--	--
11/6/2015	FC MW-5-(061115)	--	< 0.0050	--	--	--	--	--	< 0.0025	--	< 0.013	--	--	--	< 4.0	--	--	--	--	--	--	< 0.015	--	--
6/17/2016	FC-Seep-MW5-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.80	--	--	--	< 0.00020	--	--	--	--	--
6/17/2016	FC-Seep-Dup1-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.80	--	--	--	< 0.00020	--	--	--	--	--
9/15/2016	FC-Seep-MW5-916	--	0.0022	--	--	--	--	--	--	--	0.0034	--	--	--	< 2.0	--	--	--	< 0.00020	--	--	--	--	--
6/22/2020	FC-CCR-MW05-0620	--	--	--	--	--	--	--	--	--	--	--	0.0069	--	--	--	--	--	--	--	0.0042	--	--	--
11/7/2020	FC-CCR-MW05-1120	--	--	--	--	--	--	--	--	--	--	--	0.0037	--	--	--	--	--	--	--	0.0024	--	--	--
4/25/2021	FC-CCR-MW05-0421	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0094	--	0.52 J	--	--	2.2	--	--	0.0024	--	--	--
11/16/2021	FC-CCR-MW05-1121	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0082	--	0.51 J	--	--	2.1	--	--	0.0017	--	--	--
2/1/2022	FC-CCR-MW05-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0071	--	< 0.8	--	--	2.3	--	--	0.0013	--	--	--
5/25/2022	FC-CCR-MW05-0522	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0068	--	< 0.8	--	--	2.2	--	--	0.0017	--	--	--
8/12/2022	FC-CCR-MW05-0822	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0058	--	0.85	--	--	2.2	--	--	0.0018	--	--	--
11/11/2022	FC-CCR-MW05-1122	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0048	--	< 4	--	--	2.2	--	--	0.0018	--	--	--
4/1/1987	MW-6_4/1/1987	--	--	< 0.05	--	< 0.005	--	--	--	< 0.005	--	< 0.005	--	--	< 0.5	--	< 0.05	--	--	< 0.0001	--	--	--	--
9/30/1987	MW-6_9/30/1987	--	--	< 0.05	--	0.17	--	--	--	< 0.005	--	0.0060	--	--	< 0.5	--	0.080	--	--	< 0.0001	--	--	--	--
6/15/1988	MW-6-19880615	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	< 0.001	--	--	--	--	--
9/21/1988	MW-6-19880921	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
11/29/1988	MW-6-19881129	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
2/27/1989	MW-6-19890227	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
9/12/1989	MW-6-19890912	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
3/26/1990	MW-6-19900326	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
10/30/1990	MW-6-19901030	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
4/2/1991	MW-6-19910402	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
9/24/1991	MW-6-19910924	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
5/5/1992	MW-6-19920505	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
11/27/1992	MW-6-19921127	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
4/21/1993	MW-6-19930421	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
11/22/1993	MW-6-19931122	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
4/20/1994	MW-6-19940420	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
9/20/1994	MW-6-19940920	--	0.050	--	< 0.5	--	--	--	< 0.005	--	< 0.02	--	--	--	0.20	< 0.1	--	--	--	--	< 0.01	< 0.1	--	--
12/14/1994	MW-6-19941214	< 0.3	< 0.05	--	< 1	--	< 0.025	--	< 0.025	--	< 0.05	--	< 0.25	--	--	< 0.015	--	--	< 0.0002	--	--	< 0.025	< 0.05	--
4/5/1995	MW-6-19950405	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
11/21/1995	MW-6-19951121	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
8/14/1996	MW-6-19960814	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
4/23/1997	MW-6-19970423	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
10/14/1997	MW-6-19971014	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	--
10/21/1998	MW-6-19981021	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
6/9/1999	MW-6-19990609	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
12/1/1999	MW-6-19991201	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
6/8/2000	MW-6-20000608	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
11/28/2000	MW-6-20001128	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1855	--	--	--	--	--	--	--	--	--
8/21/2001	MW-6-20010821	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
12/3/2001	MW-6-20011203	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
6/24/2002	MW-6-20020624	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	--
12/18/2002	MW-6-20021218	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
6/3/2003	MW-6-20030603	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28	--	--	--	--	--	--	--	--	--
9/24/2003	MW-6-20030924	--	--	--	--	--	--	--	--	--	--	--	--	--	0.22	--	--	--	--	--	--	--	--	--
6/16/2004	MW-6-20040616	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
11/9/2004	MW-6-20041109	--	< 0.0005	--	0.0108	--	--	--	< 0.0005	--	0.0070	--	--	--	< 0.2	0.00020	--	--	--	--	0.0028	0.0060	--	--
5/12/2005	MW-6-20050512	--	0.0030	--	0.0080	--	< 0.005	--	< 0.001	--	< 0.01	--	0.0012	--	0.10	< 0.001	--	--	< 0.0002	--	--	0.010	0.0012	--
11/1/2005	MW-6-20051101	--	--	--	0.011	--	--	--	--	--	--	--	0.0030	--	0.10	--	--	--	--	--	--	--	--	--
5/16/2006	MW-6-20060516	--	0.043	--	0.011	--	0.0010	--	< 0.006	--	< 0.004	--	0.0040	--	0.15	< 0.012	--	--	--	--	< 0.006	< 0.038	0.012	--
10/13/2006	MW-6-20061013	--	< 0.024	--	0.013	--	< 0.003	--	< 0.002	--	< 0.002	--	< 0.008	--	0.149	< 0.009	--	--	--	--	< 0.012	< 0.029	< 0.025	--
4/18/2007	MW-6-20070418	--	0.040	--	0.015	--	< 0.003	--	< 0.002	--	< 0.002	--	< 0.008	--	0.112	< 0.009	--	--	< 0.0022	--	0.0040	0.020	< 0.025	--
11/20/2007	MW-6-20071120	--	0.0037	--	0.0085	--	< 0.0005	--	< 0.05	--	0.0060	--	0.00418	--	0.20	< 0.0001	--	--	--	--	0.00090	0.011	< 0.0005	--
8/1/2008	MW-6-20080801	--	0.0050	--	0.0135	--	< 0.0005	--	< 0.00005	--	0.0060	--	0.00489	--	< 0.2	0.00020	--	--	--	--	< 0.0005	0.023	< 0.00005	--
12/3/2009	MW-6-20091203	--	0.0024	--	0.0114	--	< 0.0005	--	< 0.00005	--	0.0080	--	0.00288	--	0.30	0.00040	--	--	< 0.0002	--	0.0010	0.011	< 0.00005	--
9/28/2012	MW-6-092812-01	--	< 0.0010	--	--	--	--	--	--	--	0.0042	--	--	--	< 2.0	--	--	--	--	--	--	< 0.0010	--	--
11/20/2013	FC-06-112013	--	0.00028	--	--	--	--	--	--	--	0.0044	--	--	--	< 2.0	--	--	--	--	--	--	< 0.001	--	--
3/12/2014	FC-06-031214	--	0.00052	--	--	--	--	--	--	--	0.021	--	--	--	< 0.80	--	--	--	--	--	--	0.00093	--	--
9/11/2014	FCPP-06-91114	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	--	< 0.40	--	--	--	--	--	--	< 0.0060	--	--
12/8/2014	FCPP-MW06-12914	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3/19/2015	FCPP-06-031915	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	--	--	--	< 0.0030	--	--
6/24/2015	MW-6	--	< 0.030	--	--	--	--	--	--	--	< 0.030	--	--	--	< 0.40	--	--	--	--	--	--	< 0.030	--	--
8/29/2015	FCPP-06-082915	--	< 0.0030	--	--	--	--	--	< 0.0010	--	< 0.0030	--	--	--	< 2.0	--	--	--	--	--	--	0.0094	--	--

Additional Analyses

Date	Sample ID	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Iron	Magnesium	Magnesium	Manganese	Potassium	Potassium	Radium 226	Radium 228	Selenium	Sodium	Sodium
	Filtered:	N	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	Y
	Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
	Multiunit 1 BTV	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--
	Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11/16/2022	FC-CCR-DMX06-1122	430	< 6	< 6	430	< 6	< 0.1	580	--	0.76	40	--	0.8	< 0.7	--	2,800	--
4/1/1987	MW-5_4/1/1987	--	--	--	830	--	--	--	1,600	--	--	55	--	--	< 0.05	--	4,600
10/2/1987	MW-5_10/2/1987	--	--	--	880	--	--	--	1,900	--	--	90	--	--	< 0.05	--	5,200
6/14/1988	MW-5-19880614	817.4	--	--	670	< 0	--	1,540	--	--	76	--	--	--	--	4,575	--
9/21/1988	MW-5-19880921	915	--	--	750	< 0	--	1,780	--	--	77	--	--	--	--	3,720	--
11/28/1988	MW-5-19881128	902.8	--	--	740	< 0	--	1,970	--	--	92	--	--	--	--	4,170	--
2/28/1989	MW-5-19890228	976	--	--	800	< 0	--	1,650	--	--	80	--	--	--	--	3,830	--
9/11/1989	MW-5-19890911	893	--	--	732	< 0	--	1,908	--	--	76	--	--	--	--	4,100	--
3/22/1990	MW-5-19900322	915	--	--	750	< 0	--	1,450	--	--	74	--	--	--	--	3,900	--
10/30/1990	MW-5-19901030	793	--	--	650	< 0	--	1,400	--	--	60	--	--	--	--	3,100	--
4/4/1991	MW-5-19910404	823.5	--	--	675	< 0	--	1,500	--	--	65	--	--	--	--	3,400	--
9/30/1991	MW-5-19910930	762.5	--	--	625	< 0	--	1,390	--	--	66	--	--	--	--	3,140	--
4/15/1992	MW-5-19920415	701.5	--	--	575	< 0	--	1,400	--	--	76	--	--	--	--	3,900	--
11/3/1992	MW-5-19921103	976	--	--	800	< 0	--	1,600	--	--	62	--	--	--	--	4,600	--
6/22/1993	MW-5-19930622	732	--	--	600	< 0	--	1,300	--	--	75	--	--	--	--	3,300	--
11/30/1993	MW-5-19931130	732	--	--	600	< 0	--	1,400	--	--	62	--	--	--	--	3,300	--
5/10/1994	MW-5-19940510	945.5	--	--	775	< 0	--	1,400	--	--	71	--	--	--	--	3,400	--
11/8/1994	MW-5-19941108	762.5	--	--	625	< 0	--	1,300	--	--	70	--	--	--	--	3,700	--
4/6/1995	MW-5-19950406	823.5	--	--	675	< 0	--	1,400	--	--	63	--	--	--	--	3,300	--
12/13/1995	MW-5-19951213	732	--	--	600	< 0	--	1,500	--	--	65	--	--	--	--	3,400	--
8/15/1996	MW-5-19960815	762.5	--	--	625	< 0	--	1,200	--	--	62	--	--	--	--	3,000	--
4/15/1997	MW-5-19970415	823.5	--	--	675	< 0	--	1,100	--	--	58	--	--	--	--	3,000	--
10/13/1997	MW-5-19971013	762.5	--	--	625	< 0	--	1,000	--	--	56	--	--	--	--	2,700	--
4/14/1998	MW-5-19980414	640.5	--	--	525	< 0	--	1,200	--	--	51	--	--	--	--	2,900	--
10/20/1998	MW-5-19981020	793	--	--	650	< 0	--	1,100	--	--	50	--	--	--	--	2,600	--
6/8/1999	MW-5-19990608	762.5	--	--	625	< 0	--	1,200	--	--	49	--	--	--	--	2,000	--
12/1/1999	MW-5-19991201	671	--	--	550	< 0	--	1,000	--	--	50	--	--	--	--	3,500	--
5/30/2000	MW-5-20000530	762.5	--	--	625	< 0	--	1,230	--	--	52.1	--	--	--	--	2,940	--
11/14/2000	MW-5-20001114	640.5	--	--	525	< 0	--	1,000	--	--	57	--	--	--	--	3,000	--
8/21/2001	MW-5-20010821	640.5	--	--	525	< 0	--	1,100	--	--	51	--	--	--	--	3,500	--
12/4/2001	MW-5-20011204	701.5	--	--	575	< 0	--	1,000	--	--	50	--	--	--	--	2,900	--
6/11/2002	MW-5-20020611	1,037	--	--	850	< 0	--	1,100	--	--	52	--	--	--	--	2,800	--
12/18/2002	MW-5-20021218	793	--	--	650	< 0	--	1,000	--	--	42	--	--	--	--	2,500	--
5/28/2003	MW-5-20030528	701.5	--	--	575	< 0	--	1,000	--	--	44	--	--	--	--	2,300	--
12/15/2003	MW-5-20031215	2,867	--	--	2,350	< 0	--	1,000	--	--	56	--	--	--	--	2,500	--
6/18/2004	MW-5-20040618	5,307	--	--	4,350	< 0	--	1,100	--	--	59	--	--	--	--	3,100	--
11/30/2004	MW-5-20041130	732	--	--	600	< 0	--	1,200	--	--	60	--	--	--	--	3,450	--
5/11/2005	MW-5-20050511	732	--	--	600	< 0	--	1,200	--	--	59	--	--	--	--	2,300	--
12/12/2005	MW-5-20051212	732	--	--	600	< 0	--	1,220	--	--	49	--	--	--	--	3,050	--
5/15/2006	MW-5-20060515	705.2	--	--	578	< 0	--	1,190	--	--	47.7	--	--	--	--	2,890	--
10/13/2006	MW-5-20061013	716.1	--	--	587	< 0	--	1,230	--	--	41.2	--	--	--	--	2,820	--
4/19/2007	MW-5-20070419	686.9	--	--	563	< 0	--	1,090	--	--	47.2	--	--	--	--	2,480	--
11/20/2007	MW-5-20071120	768.6	--	--	630	< 0	--	859	--	--	41.5	--	--	--	--	2,220	--
5/8/2008	MW-5-20080508	744.2	--	--	610	< 0	--	1,060	--	--	53.7	--	--	--	--	3,070	--
9/27/2012	MW-5-092712-01	880	< 6.0	< 6.0	880	< 6.0	--	1,200	--	--	66	--	--	--	--	5,500	--
9/10/2014	FCPP-05-091014	980	< 6.0	< 6.0	980	< 6.0	--	1,300	--	--	68	--	--	--	--	5,600	--
3/18/2015	FCPP-05-031815	900	< 6.0	< 6.0	900	< 6.0	--	1,200	--	--	60	--	--	--	--	5,500	--
6/30/2015	MW-5	850	< 6.0	< 6.0	850	< 6.0	--	1,300	--	--	68	--	--	--	--	5,600	--
8/25/2015	FCPP-5-082515	950	< 6.0	< 6.0	950	< 6.0	--	1,200	--	--	76	--	--	--	--	5,900	--
11/6/2015	FC MW-5-(061115)	790	< 6.0	< 6.0	790	< 6.0	--	1,400	--	--	62	--	--	--	--	4,600	--
6/17/2016	FC-Seep-MW5-616	740	< 6.0	< 6.0	740	< 6.0	--	1,400	--	--	70	--	--	--	--	6,000	--
6/17/2016	FC-Seep-Dup1-616	740	< 6.0	< 6.0	740	< 6.0	--	1,400	--	--	69	--	--	--	--	5,700	--
9/15/2016	FC-Seep-MW5-916	1,000	< 6.0	< 6.0	1,000	< 6.0	--	1,400	--	--	75	--	--	--	--	5,700	--
6/22/2020	FC-CCR-MW05-0620	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11/7/2020	FC-CCR-MW05-1120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4/25/2021	FC-CCR-MW05-0421	900	< 6	< 6	900	< 6	0.26	1,500	--	1.6	100	--	--	--	--	6,500	--
11/16/2021	FC-CCR-MW05-1121	850	< 6	< 6	850	< 6	0.30	1,400	--	1.6	89	--	--	--	--	6,500	--
2/1/2022	FC-CCR-MW05-0222	930	< 6	< 6	930	< 6	0.28	1,300	--	--	72	--	--	--	--	6,400	--
5/25/2022	FC-CCR-MW05-0522	890	< 6	< 6	890	< 6	0.24	1,300	--	1.6	94	--	--	--	--	6,700	--
8/12/2022	FC-CCR-MW05-0822	880	< 6	< 6	880	< 6	0.25	1,400	--	--	87	--	--	--	--	6,300	--
11/11/2022	FC-CCR-MW05-1122	870	< 6	< 6	870	< 6	0.25	1,300	--	1.1	95	--	--	--	--	6,700	--
4/1/1987	MW-6_4/1/1987	--	--	--	280	--	--	--	810	--	--	32	--	--	< 0.05	--	2,300
9/30/1987	MW-6_9/30/1987	--	--	--	280	--	--	--	760	--	--	46	--	--	< 0.05	--	2,300
6/15/1988	MW-6-19880615	414.8	--	--	340	< 0	--	812	--	--	49	--	--	--	--	2,690	--
9/21/1988	MW-6-19880921	329.4	--	--	270	< 0	--	789	--	--	45	--	--	--	--	2,430	--
11/29/1988	MW-6-19881129	244	--	--	200	< 0	--	1,000	--	--	49	--	--	--	--	2,270	--
2/27/1989	MW-6-19890227	488	--	--	400	< 0	--	757	--	--	48	--	--	--	--	2,200	--
9/12/1989	MW-6-19890912	427	--	--	350	< 0	--	850	--	--	44	--	--	--	--	2,100	--
3/26/1990	MW-6-19900326	366	--	--	300	< 0	--	650	--	--	56	--	--	--	--	2,100	--
10/30/1990	MW-6-19901030	335.5	--	--	275	< 0	--	700	--	--	40	--	--	--	--	2,050	--
4/2/1991	MW-6-19910402	396.5	--	--	325	< 0	--	700	--	--	42	--	--	--	--	2,050	--
9/24/1991	MW-6-19910924	366	--	--	300	< 0	--	720	--	--	40.5	--	--	--	--	2,085	--
5/5/1992	MW-6-19920505	366	--	--	300	< 0	--	700	--	--	42	--	--	--	--	2,150	--
11/27/1992	MW-6-19921127	396.5	--	--	325	< 0	--	650	--	--	46	--	--	--	--	2,250	--
4/21/1993	MW-6-19930421	488	--	--	400	< 0	--	650	--	--	47.5	--	--	--	--	2,450	--
11/22/1993	MW-6-19931122	335.5	--	--	275	< 0	--	650	--	--	40	--	--	--	--	1,950	--
4/20/1994	MW-6-19940420	457.5	--	--	375	< 0	--	650	--	--	45	--	--	--	--	2,000	--
9/20/1994	MW-6-19940920	396.5	--	--	325	< 0	--	650	--	--	46	--	--	--	--	1,900	--
12/14/1994	MW-6-19941214	--	--	--	--	--	--	630	--	--	34	--	--	--	--	1,700	--
4/5/1995	MW-6-19950405	457.5	--	--	375	< 0	--	600	--	--	42	--	--	--	--	2,000	--
11/21/1995	MW-6-19951121	366	--	--	300	< 0	--	600	--	--	46	--	--	--	--	1,900	--
8/14/1996	MW-6-19960814	396.5	--	--	325	< 0	--	650	--	--	38	--	--	--	--	1,900	--
4/23/1997	MW-6-19970423	396.5	--	--	325	< 0	--	600	--	--	41	--	--	--	--	2,050	--
10/14/1997	MW-6-19971014	762.5	--	--	625	< 0	--	550	--	--	38	--	--	--	--	1,700	--
10/21/1998	MW-6-19981021	396.5	--	--	325	< 0	--	600	--	--	30	--	--	--	--	1,500	--
6/9/1999	MW-6-19990609	457.5	--	--	375	< 0	--	550	--	--	30.5	--	--	--	--	1,250	--
12/1/1999	MW-6-19991201	305	--	--	250	< 0	--	550	--	--	32.5	--	--	--	--	2,000	--
6/8/2000	MW-6-20000608	488	--	--	400	< 0	--	618	--	--	34.7	--	--	--	--	1,630	--
11/28/2000	MW-6-20001128	457.5	--	--	375	< 0	--	550	--	--	37	--	--	--	--	2,050	--
8/21/2001	MW-6-20010821	701.5	--	--	575	< 0	--	600	--	--	33	--	--	--	--	1,850	--
12/3/2001	MW-6-20011203	396.5	--	--	325	< 0	--	500	--	--	29.5	--	--	--	--	1,900	--
6/24/2002	MW-6-20020624	427	--	--	350	< 0	--	550	--	--	40.5	--	--	--	--	1,500	--
12/18/2002	MW-6-20021218	335.5	--	--	275	< 0	--	450	--	--	34.5	--	--	--	--	1,550	--
6/3/2003	MW-6-20030603	366	--	--	300	< 0	--	500	--	--	36	--	--	--	--	1,550	--
9/24/2003	MW-6-20030924	396.5	--	--	325	< 0	--	500	--	--	37.5	--	--	--	--	1,450	--
6/16/2004	MW-6-20040616	2,501	--	--	2,050	< 0	--	550	--	--	34	--	--	--	--	1,650	--
11/9/2004	MW-6-20041109	2,349	--	--	1,925	< 0	--	499	--	--	29.8	--	--	--	--	1,320	--
5/12/2005	MW-6-20050512	305	--	--	250	< 0	--	550	--	--	35.5	--	--	--	--	1,250	--
11/1/2005	MW-6-20051101	396.5	--	--	325	< 0	--	494	--	--	29.6	--	--	--	--	1,420	--
5/16/2006	MW-6-20060516	259.9	--	--	213	< 0	--	468	--	--	27.3	--	--	--	--	1,360	--
10/13/2006	MW-6-20061013	233	--	--	191	< 0	--	471	--	--	26.6	--	--	--	--	1,320	--
4/18/2007	MW-6-20070418	235.5	--	--	193	< 0	--	417	--	--	25.2	--	--	--	--	1,180	--
11/20/2007	MW-6-20071120	239.1	--	--	196	< 0	--	373	--	--	22.7	--	--	--	--	1,100	--
8/1/2008	MW-6-20080801	244	--	--	200	< 0	--	418	--	--	25.9	--	--	--	--	1,130	--
12/3/2009	MW-6-20091203	431.9	--	--	354	< 0	--	467	--	--	32.1	--	--	--	--	2,560	--
9/28/2012	MW-6-092812-01	140	< 6.0	< 6.0	140	< 6.0	--	360	--	--	22	--	--	--	--	960	--
11/20/2013	FC-06-112013	460	< 6.0	< 6.0	460	< 6.0	--	630	--	--	41	--	--	--	--	3,300	--
3/12/2014	FC-06-031214	440	< 6.0	< 6.0	440	< 6.0	--	580	--	--	41	--	--	--	--	3,300	--
9/11/2014	FCPP-06-91114	410	< 6.0	< 6.0	410	< 6.0	--	580	--	--	41	--	--	--	--	3,300	--
12/8/2014	FCPP-MW06-12914	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3/19/2015	FCPP-06-031915	430	< 6.0	< 6.0	430	< 6.0	--	640	--	--	38	--	--	--	--	3,400	--
6/24/2015	MW-6	430	< 6.0	< 6.0	430	< 6.0	--	620	--	--	44	--	--	--	--	3,500	--
8/29/2015	FCPP-06-082915	380	< 6.0	< 6.0	380	< 6.0	--	580	--	--	42	--	--	--	--	3,000	--

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

Appendix III Constituents

Well	Unit	Gradient	Date	Sample ID	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
				Filtered:	N	Y	N	Y	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*3.95*	*454.1*	*454.1*	*604.7*	*2.1*	*6.52-7.88*	*6.52-7.88*	*22,000*	*34,397*
				Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--
MW-06	Multiunit 1/EW System	Downgradient	11/7/2015	FC MW-6-(07115)	10	--	470	--	1,300	< 0.40	--	7.21	9,400	15,000
MW-06	Multiunit 1/EW System	Downgradient	6/20/2016	FC-Seep-MW6-616	8.3	--	450	--	1,400	< 0.40	--	7.24	9,600	16,000
MW-06	Multiunit 1/EW System	Downgradient	9/15/2016	FC-Seep-MW6-916	8.1	--	420	--	1,300	< 0.40	--	7.2	9,700	15,000
MW-06	Multiunit 1/EW System	Downgradient	3/19/2019	FC-CCR-MW6-031919	--	--	--	--	--	< 0.80	--	--	--	--
MW-06	Multiunit 1/EW System	Downgradient	3/19/2019	FC-CCR-MW6-031919	--	--	--	--	--	--	--	--	--	--
MW-06	Multiunit 1/EW System	Downgradient	5/14/2019	FC-CCR-MW6-51419	5.9	--	430	--	1,500	< 0.80	--	7.3 J	11,000	18,000
MW-06	Multiunit 1/EW System	Downgradient	5/14/2019	FC-CCR-MW6-51419	--	--	--	--	--	--	--	--	--	--
MW-06	Multiunit 1/EW System	Downgradient	11/19/2019	FC-CCR-MW6-111919	6.0	--	500	--	1,900	< 0.80	--	7.3 J	16,000	22,000
MW-06	Multiunit 1/EW System	Downgradient	6/23/2020	FC-CCR-MW06-0620	5.9	--	520	--	2,200	< 0.8	7.00	7.5 J	18,000	29,000
MW-06	Multiunit 1/EW System	Downgradient	11/7/2020	FC-CCR-MW06-1120	5.9	--	460	--	2,700	--	7.13	7.5 J	23,000	31,000
MW-06	Multiunit 1/EW System	Downgradient	4/26/2021	FC-CCR-MW06-0421	5.8	--	490	--	2,500	0.58 J	7.87	7.5 J	20,000	29,000
MW-06	Multiunit 1/EW System	Downgradient	11/16/2021	FC-CCR-MW06-1121	6.1	--	480	--	5,500	0.58 J	7.02	7.7 J	51,000	34,000
MW-06	Multiunit 1/EW System	Downgradient	2/8/2022	FC-CCR-MW06-0222	6.1	--	500	--	2,900	0.34	6.94	7.5 J	21,000	35,000
MW-06	Multiunit 1/EW System	Downgradient	5/25/2022	FC-CCR-MW06-0522	6.0	--	510	--	5,800	< 0.8	7.04	7.59 J	21,000	25,000
MW-06	Multiunit 1/EW System	Downgradient	9/1/2022	FC-CCR-MW06-0922	6.2		480		3,200	< 0.8	6.97	7.4 J	23,000	33,000
MW-06	Multiunit 1/EW System	Downgradient	11/14/2022	FC-CCR-MW06-1122	6.1	--	500	--	2,800	< 4	7.07	7.3 J	21,000	34,000
MW-07	Multiunit 1	Downgradient	4/1/1987	MW-7_4/1/1987	--	4.4	--	500	460	< 0.5	8.00	7.6	3,100	5.6*
MW-07	Multiunit 1	Downgradient	4/1/1987	MW-7 dup_4/1/1987	--	4.6	--	510	460	< 0.5	8.00	7.6	3,800	5,200
MW-07	Multiunit 1	Downgradient	9/30/1987	MW-7_9/30/1987	--	5.8	--	460	770	< 0.5	6.90	7.2	4,000	7,700
MW-07	Multiunit 1	Downgradient	6/16/1988	MW-7-19880616	--	--	436	--	408	0.50	7.40	--	3,678	6,167
MW-07	Multiunit 1	Downgradient	9/21/1988	MW-7-19880921	7.0	--	424	--	309	0.50	7.05	--	3,260	5,813
MW-07	Multiunit 1	Downgradient	11/14/1988	MW-7-19881114	7.0	--	417	--	348	0.50	7.17	--	3,477	6,300
MW-07	Multiunit 1	Downgradient	3/6/1989	MW-7-19890306	8.0	--	421	--	317	0.50	7.28	--	3,480	5,840
MW-07	Multiunit 1	Downgradient	9/12/1989	MW-7-19890912	9.0	--	430	--	292	0.40	7.41	--	3,100	5,430
MW-07	Multiunit 1	Downgradient	3/22/1990	MW-7-19900322	9.0	--	420	--	291	0.40	7.40	--	3,372	5,720
MW-07	Multiunit 1	Downgradient	9/24/1990	MW-7-19900924	8.0	--	470	--	309	0.30	7.55	--	3,378	5,590
MW-07	Multiunit 1	Downgradient	3/27/1991	MW-7-19910327	9.0	--	410	--	338	0.30	7.39	--	3,500	5,730
MW-07	Multiunit 1	Downgradient	9/24/1991	MW-7-19910924	8.0	--	440	--	312	0.30	7.50	--	3,472	5,490
MW-07	Multiunit 1	Downgradient	4/30/1992	MW-7-19920430	13	--	500	--	346	0.40	7.42	--	3,238	5,920
MW-07	Multiunit 1	Downgradient	10/27/1992	MW-7-19921027	15	--	500	--	285	0.40	7.25	--	3,274	5,230
MW-07	Multiunit 1	Downgradient	4/22/1993	MW-7-19930422	14	--	400	--	338.9	0.30	7.32	--	3,375	5,660
MW-07	Multiunit 1	Downgradient	11/22/1993	MW-7-19931122	14	--	500	--	299	0.30	7.30	--	3,074	5,370
MW-07	Multiunit 1	Downgradient	4/20/1994	MW-7-19940420	13	--	500	--	366	0.40	7.30	--	3,353	6,070
MW-07	Multiunit 1	Downgradient	9/21/1994	MW-7-19940921	2.04	--	500	--	326	0.30	7.35	--	3,319	5,880
MW-07	Multiunit 1	Downgradient	12/14/1994	MW-7-19941214	--	--	420	--	--	--	7.18	--	--	--
MW-07	Multiunit 1	Downgradient	4/4/1995	MW-7-19950404	1.6	--	400	--	360	0.30	7.33	--	3,352	5,780
MW-07	Multiunit 1	Downgradient	11/18/1995	MW-7-19951118	10.8	--	500	--	308.6	0.30	7.27	--	3,045	5,410
MW-07	Multiunit 1	Downgradient	8/13/1996	MW-7-19960813	16.5	--	500	--	318	0.30	7.42	--	2,939	5,340
MW-07	Multiunit 1	Downgradient	4/15/1997	MW-7-19970415	15.8	--	500	--	347.5	0.30	7.24	--	2,992	5,540
MW-07	Multiunit 1	Downgradient	10/7/1997	MW-7-19971007	< 0.05	--	460	--	393.5	0.30	7.55	--	3,402	5,880
MW-07	Multiunit 1	Downgradient	4/13/1998	MW-7-19980413	--	--	460	--	354.6	0.30	7.39	--	3,069	5,870
MW-07	Multiunit 1	Downgradient	10/20/1998	MW-7-19981020	16.9	--	460	--	251.1	0.30	7.58	--	2,180	5,570
MW-07	Multiunit 1	Downgradient	5/11/1999	MW-7-19990511	15.4	--	480	--	--	0.40	7.50	--	--	5,990
MW-07	Multiunit 1	Downgradient	11/30/1999	MW-7-19991130	14.5	--	560	--	429.6	0.30	7.48	--	3,369	6,030
MW-07	Multiunit 1	Downgradient	6/8/2000	MW-7-20000608	15.5	--	477	--	430.2	0.40	7.30	--	3,680	5,480
MW-07	Multiunit 1	Downgradient	11/28/2000	MW-7-20001128	17.4	--	600	--	358.8	0.4086	7.29	--	2,999	5,500
MW-07	Multiunit 1	Downgradient	8/22/2001	MW-7-20010822	14.2	--	450	--	485.9	0.40	7.28	--	3,724	6,960
MW-07	Multiunit 1	Downgradient	12/3/2001	MW-7-20011203	16.1	--	720	--	396.5	0.40	7.25	--	3,658	6,280
MW-07	Multiunit 1	Downgradient	6/24/2002	MW-7-20020624	16.1	--	460	--	407.2	0.30	7.55	--	3,430	6,170
MW-07	Multiunit 1	Downgradient	12/19/2002	MW-7-20021219	33.2	--	460	--	440.5	0.40	7.35	--	3,462	6,310
MW-07	Multiunit 1	Downgradient	5/29/2003	MW-7-20030529	18.7	--	460	--	--	0.40	6.81	--	--	8,100
MW-07	Multiunit 1	Downgradient	12/24/2003	MW-7-20031224	17	--	320	--	750.8	0.24	7.08	--	4,017	7,820
MW-07	Multiunit 1	Downgradient	6/21/2004	MW-7-20040621	--	--	440	--	387.5	0.40	7.13	--	2,039	8,000
MW-07	Multiunit 1	Downgradient	11/29/2004	MW-7-20041129	18.6	--	400	--	741	0.28	7.17	--	2,615	7,630
MW-07	Multiunit 1	Downgradient	6/13/2005	MW-7-20050613	15.9	--	500	--	584.3	0.30	7.20	--	3,386	6,830
MW-07	Multiunit 1	Downgradient	12/14/2005	MW-7-20051214	17.2	--	474	--	1,578	0.30	7.00	--	8,580	8,210
MW-07	Multiunit 1	Downgradient	5/16/2006	MW-7-20060516	17.7	--	449	--	584	0.373	7.20	--	3,910	7,120
MW-07	Multiunit 1	Downgradient	10/11/2006	MW-7-20061011	16.2	--	454	--	772	0.327	7.13	--	3,510	8,320
MW-07	Multiunit 1	Downgradient	4/19/2007	MW-7-20070419	18.2	--	459	--	698	0.259	7.20	--	4,100	7,430
MW-07	Multiunit 1	Downgradient	11/19/2007	MW-7-20071119	13.2	--	376	--	860	0.30	7.12	--	5,200	8,400
MW-07	Multiunit 1	Downgradient	8/7/2008	MW-7-20080807	14.1	--	387	--	830	0.30	7.14	--	5,260	9,040
MW-07	Multiunit 1	Downgradient	7/10/2012	MW-7	9.8	--	360	--	750	< 0.80	--	7.3	5,900	10,000
MW-07	Multiunit 1	Downgradient	9/27/2012	MW-7-092712-01	6.5	--	420	--	640	< 2.0	--	--	8,100	13,000
MW-07	Multiunit 1	Downgradient	11/19/2013	FC-07-111913	8.6	--	490	--	290	< 2.0	--	--	6,100	9,600
MW-07	Multiunit 1	Downgradient	9/10/2014	FCPP-07-091014	8.5	--	420	--	590	< 0.40	--	--	6,800	10,000
MW-07	Multiunit 1	Downgradient	3/16/2015	FCPP-07-031615	8.9	--	360	--	760	< 0.40	--	--	6,600	11,000
MW-07	Multiunit 1	Downgradient	8/26/2015	FCPP-7-082615	9.0	--	330	--	960	< 0.80	--	7.33	6,700	11,000
MW-07	Multiunit 1	Downgradient	11/7/2015	FC-CCR-MW7-110715	9.4	--	390	--	580	0.35	--	7.25	6,400	9,800
MW-07	Multiunit 1	Downgradient	11/7/2015	FC-CCR-MW7-110715	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	4/26/2016	FC-CCR-MW-7-042616	10	--	430	--	740	< 2.0	--	--	6,000	11,000
MW-07	Multiunit 1	Downgradient	6/6/2016	FC-CCR-MW7-616	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	6/6/2016	FC-CCR-MW7-616	10	--	380	--	880	0.41	--	7.23	6,300	11,000
MW-07	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW7-816	11	--	430	--	450	< 0.40	--	7.1	5,900	10,000
MW-07	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW7-816	--	--	--	--	--	< 0.40	--	--	--	--
MW-07	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW7-816	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW7-916	10	--	410	--	530	< 0.40	--	7.3	6,200	10,000
MW-07	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW7-916	--	--	--	--	--	< 0.40	--	--	--	--
MW-07	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW7-916	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	10/20/2016	FC-CCR-MW7-1016	10	--	390	--	540	< 0.40	--	7.4	6,000	10,000
MW-07	Multiunit 1	Downgradient	10/20/2016	FC-CCR-MW7-1016	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW7-117	9.0	--	400	--	460	< 0.40	--	7.8	6,400	9,700
MW-07	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW7-117	--	--	--	--	--	< 0.40	--	--	--	--
MW-07	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW7-117	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW7-41817	8.6	--	430	--	430	< 0.80	--	7.4	6,500	11,000
MW-07	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW7-41817	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW7-41817	--	--	--	--	--	< 0.80	--	--	--	--
MW-07	Multiunit 1	Downgradient	5/3/2017	FC-CCR-MW7-5317	--	--	--	--	--	5.1	--	--	--	--
MW-07	Multiunit 1	Downgradient	5/3/2017	FC-CCR-MW7-53117	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	5/29/2017	FC-CCR-MW-72-52917	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	5/30/2017	FC-CCR-MW7-53017	--	--	--	--	--	< 0.80	--	--	--	--
MW-07	Multiunit 1	Downgradient	5/30/2017	FC-CCR-MW7-53017	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW7-62217	7.6	--	410	--	430	--	--	7.5	7,300	10,000
MW-07	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW7-62217	--	--	--	--	--	< 0.80	--	--	--	--
MW-07	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW7-62217	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW7-72217	7.6	--	400	--	430	< 0.80	--	7.5	7,500	10,000
MW-07	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW7-72217	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW7-72217	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW7-81017	7.8	--	420	--	420	--	--	7.5	7,400	10,000
MW-07	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW7-81017	--	--	--	--	--	< 0.80	--	--	--	--
MW-07	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW7-81017	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	8/17/2017	FC-CCR-MW7-81717	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	8/17/2017	FC-CCR-MW7-81717	7.5	--	460	--	320	< 0.80	--	7.6	6,500	10,000
MW-07	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW7-91017	8.0	--	430	--	350	--	--	7.5	6,600	9,900
MW-07	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW7-91017	--	--	--	--	--	< 0.80	--	--	--	--
MW-07	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW7-91017	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	10/12/2017	FC-CCR-MW7-101217	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	10/12/2017	FC-CCR-MW7-101217	7.2	--	390	--	< 400	< 0.80	--	7.6	7,100	10,000
MW-07	Multiunit 1	Downgradient	11/30/2017	FC-CCR-MW7-113017	7.7	--	420	--	440	< 0.80	--	7.5	6,600	10,000
MW-07	Multiunit 1	Downgradient	3/17/2018	FC-CCR-MW7-31718	--	--	--	--	--	0.49	--	--	--	--
MW-07	Multiunit 1	Downgradient	3/17/2018	FC-CCR-MW7-31718	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	3/17/2018	*DUP* FC-CCR-FD02-31718	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	6/1/2018	FC-CCR-MW-7-6118	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	6/1/2018	FC-CCR-MW-7-6118	7.6	--	360	--	580	< 0.80	--	7.4	6,400	10,000
MW-07	Multiunit 1	Downgradient	11/4/2018	FC-CCR-MW7-11418	7.4	--	320	--	680	< 0.80	--	7.4	6,100	9,900
MW-07	Multiunit 1	Downgradient	11/4/2018	FC-CCR-MW7-11418	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	11/4/2018	FC-CCR-MW7-11418	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW7-031919	--	--	--	--	--	< 0.40	--	--	--	--
MW-07	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW7-031919	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW7-51419	8.3	--	340	--	570	< 0.80	--	7.4 J	5,400	9,200
MW-07	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW7-51419	--	--	--	--	--	--	--	--	--	--
MW-07	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW7-111919	8.2	--	370	--	620	< 0.80	--	7.3 J	5,600	8,900
MW-07	Multiunit 1	Downgradient	6/23/2020	FC-CCR-MW07-0620	9.4	--	360	--	740	< 0.8	6.85	7.5 J	5,600	8,600
MW-07	Multiunit 1	Downgradient	11/6/2020	FC-CCR-MW07-1120	8.6	--	400	--	600	0.33 J	6.97	7.3 J	5,600	9,400
MW-07	Multiunit 1	Downgradient	11/6/2020	*DUP* FC-CCR-FD05-1120	8.5	--	400	--	540	0.37 J	--	7.4 J	5,800	8,800
MW-07	Multiunit 1	Downgradient	4/27/2021	FC-CCR-MW07-0421	8.6	--	470	--	340 J	0.25 J	7.93	7.6 J	5,700	8,900
MW-07	Multiunit 1	Downgradient	4/27/2021	*DUP* FC-CCR-FD04-0421	8.6	--	470	--	320 J	0.26 J	7.93	7.6 J	5,700	8,900
MW-07	Multiunit 1	Downgradient	11/18/2021	FC-CCR-MW07-1121	8.1	--	390	--	850	0.25 J	6.95	7.5 J	7,200	9,500
MW-07	Multiunit 1	Downgradient	5/26/2022	FC-CCR-MW07-0522	7.3	--	370	--	670	< 0.8	6.98	7.66 J	6,000	10,000
MW-07	Multiunit 1	Downgradient	11/16/2022	FC-CCR-MW07-1122	7.8	--	420	--	580	< 2	7.04	7.3 J	5,700	9,500
MW-08	Multiunit 1	Downgradient	10/2/1987	MW-8_10/2/1987	--	13	--	470	840	< 0.5	7.53	7.2	6,000	10,000
MW-08	Multiunit 1	Downgradient	6/16/1988	MW-8-19880616	--	--	448	--	910	0.70	7.35	--	5,527	9,962
MW-08	Multiunit 1	Downgradient	9/21/1988	MW-8-19880921	17	--	438	--	787	0.70	7.25	--	5,171	9,833
MW-08	Multiunit 1	Downgradient	11/14/1988	MW-8-19881114	17	--	430	--	696	0.70	7.29	--	5,132	9,595
MW-08	Multiunit 1	Downgradient	3/8/1989	MW-8-19890308	14	--	428	--	782	0.60	7.29	--	5,529	10,195
MW-08	Multiunit 1	Downgradient	9/12/1989	MW-8-19890912	21	--	410	--	587	0.60	7.15	--	4,429	8,270
MW-08	Multiunit 1	Downgradient	3/22/1990	MW-8-19900322	19	--	430	--	622	0.40	7.20	--	4,394	7,940
MW-08	Multiunit 1	Downgradient	10/29/1990	MW-8-19901029	20	--	430	--	617	0.50	7.37	--	4,398	7,700
MW-08	Multiunit 1	Downgradient	3/27/1991	MW-8-19910327	22	--	420	--	604	0.40	7.18	--	4,856	7,760
MW-08	Multiunit 1	Downgradient	10/1/1991	MW-8-19911001	21	--	386	--	639	0.40	7.41	--	4,218	7,890
MW-08	Multiunit 1	Downgradient	5/1/1992	MW-8-19920501	24	--	430	--	562	0.40	7.30	--	4,011	6,850
MW-08	Multiunit 1	Downgradient	11/3/1992	MW-8-19921103	22	--	330	--	627.8	0.50	7.28	--	3,803	6,990
MW-08	Multiunit 1	Downgradient	4/28/1993	MW-8-19930428	23	--	360	--	503.4	0.41	7.39	--	3,752	6,300
MW-08	Multiunit 1	Downgradient	11/30/1993	MW-8-19931130	23	--	380	--	510	0.50	7.30	--	3,708	6,600
MW-08	Multiunit 1	Downgradient	4/28/1994	MW-8-19940428	26	--	430	--	499	0.60	7.28	--	3,718	6,590
MW-08	Multiunit 1	Downgradient	11/16/1994	MW-8-19941116	24	--	370	--	562	0.50	7.31	--	3,738	6,450
MW-08	Multiunit 1	Downgradient	12/14/1994	MW-8-19941214	--	--	520	--	--	--	7.25	--	--	--
MW-08	Multiunit 1	Downgradient	4/5/1995	MW-8-19950405	26	--	410	--	472	0.40	7.20	--	3,391	6,010

Appendix IV Constituents

Well	Date	Sample ID	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Mercury	Molybdenum	Selenium	Thallium	Total Radium
		Filtered:	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	Y	N	N	Y	N	N	N	N
		Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
		Multiunit 1 BTV	*0.01*	*0.0086*	*0.009*	*0.042*	*0.042*	*0.001*	*0.001*	*0.002*	*0.002*	*0.02*	*0.02*	*0.01*	*0.01*	*5*	*0.01*	*0.01*	*1.8*	*0.0002*	*0.0002*	*0.12*	*0.092*	*0.017*	*4.43*
		Multiunit 1 GWPS	*0.01*	*0.01*	*0.01*	*2*	*2*	*0.004*	*0.004*	*0.005*	*0.005*	*0.1*	*0.1*	*0.01*	*0.01*	*5*	*0.015*	*0.015*	*1.8*	*0.002*	*0.002*	*0.1*	*0.092*	*0.017*	*5*
MW-06	11/7/2015	FC MW-6-(07115)	--	< 0.0010	--	--	--	--	--	< 0.00050	--	0.0043	--	--	--	< 0.40	--	--	--	--	--	--	< 0.0030	--	--
MW-06	6/20/2016	FC-Seep-MW6-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-06	9/15/2016	FC-Seep-MW6-916	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-06	3/19/2019	FC-CCR-MW6-031919	< 0.0010	0.00069	--	0.019	--	< 0.0010	--	< 0.00010	--	< 0.0010	--	0.0050	--	< 0.80	0.0010	--	1.2	< 0.00020	--	0.017	0.00054	< 0.00010	--
MW-06	3/19/2019	FC-CCR-MW6-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9
MW-06	5/14/2019	FC-CCR-MW6-51419	--	< 0.00050	--	0.016	--	--	--	< 0.00010	--	--	--	0.0047	--	< 0.80	< 0.00050	--	1.3	--	--	0.0074	0.00066	< 0.00010	--
MW-06	5/14/2019	FC-CCR-MW6-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4
MW-06	11/19/2019	FC-CCR-MW6-111919	< 0.0010	0.0014	--	0.015	--	< 0.0010	--	0.00016	--	< 0.0010	--	0.0010	--	< 0.80	< 0.00050	--	1.6	< 0.00020	--	0.0040	0.0010	< 0.00010	--
MW-06	6/23/2020	FC-CCR-MW06-0620	< 0.002	0.0025	--	0.019	--	--	--	< 0.0002	--	< 0.002	--	0.0025	--	< 0.8	< 0.001	--	2.7	--	--	0.0042	< 0.001	< 0.0002	2.8
MW-06	11/7/2020	FC-CCR-MW06-1120	0.00031	0.003	--	0.017	--	< 0.001	--	0.00011	--	0.0025	--	0.00036 J	--	--	< 0.002	--	2.2	--	--	0.0048	0.0049	< 0.0004	2.1
MW-06	4/26/2021	FC-CCR-MW06-0421	< 0.004 U	0.0014 J	--	0.028	--	< 0.001	--	< 0.0004	--	< 0.004	--	0.0086	--	0.58 J	0.0019 J	--	2.1	--	--	0.0036	0.0043	< 0.0004	<0.8
MW-06	11/16/2021	FC-CCR-MW06-1121	0.00029 J	0.0018	--	0.017	--	< 0.001	--	0.00013 J	--	< 0.002	--	0.00056 J	--	0.58 J	0.00057 J	--	2.4	--	--	0.004	0.0040	0.00004 J	0.4
MW-06	2/8/2022	FC-CCR-MW06-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0016	--	0.34	--	--	2.3	--	--	0.0035	--	--	--
MW-06	5/25/2022	FC-CCR-MW06-0522	< 0.002	< 0.001	--	0.014	--	< 0.001	--	< 0.0002	--	< 0.002	--	< 0.001	--	< 0.8	< 0.001	--	2.1	--	--	0.0035	0.0024	< 0.0002	<0.6
MW-06	9/1/2022	FC-CCR-MW06-0922	--	--	--	--	--	0.0022	--	--	--	--	--	0.0012	--	< 0.8	--	--	2.3	--	--	0.0056	--	--	--
MW-06	11/14/2022	FC-CCR-MW06-1122	< 0.001	0.0005	--	0.014	--	< 0.001	--	< 0.0001	--	< 0.001	--	0.00095	--	< 4	< 0.0005	--	2.4	--	--	0.0038	0.0021	< 0.0001	< 0.6
MW-07	4/1/1987	MW-7_4/1/1987	--	--	< 0.05	--	< 0.005	--	--	--	< 0.005	--	< 0.005	--	--	< 0.5	--	< 0.05	--	--	< 0.0001	--	--	--	--
MW-07	4/1/1987	MW-7 dup_4/1/1987	--	--	< 0.1	--	< 0.005	--	--	--	< 0.005	--	< 0.005	--	--	< 0.5	--	< 0.05	--	--	< 0.0001	--	--	--	--
MW-07	9/30/1987	MW-7_9/30/1987	--	--	< 0.05	--	0.12	--	--	--	< 0.005	--	< 0.005	--	--	< 0.5	--	0.060	--	--	< 0.0001	--	--	--	--
MW-07	6/16/1988	MW-7-19880616	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	< 0.001	--	--	--	--	--
MW-07	9/21/1988	MW-7-19880921	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-07	11/14/1988	MW-7-19881114	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-07	3/6/1989	MW-7-19890306	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-07	9/12/1989	MW-7-19890912	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	3/22/1990	MW-7-19900322	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	9/24/1990	MW-7-19900924	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	3/27/1991	MW-7-19910327	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	9/24/1991	MW-7-19910924	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	4/30/1992	MW-7-19920430	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	10/27/1992	MW-7-19921027	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	4/22/1993	MW-7-19930422	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	11/22/1993	MW-7-19931122	--	--	--	--	--	--	--	--	--	< 0.02	--	--	--	0.30	--	--	--	--	--	0.040	--	--	--
MW-07	4/20/1994	MW-7-19940420	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	9/21/1994	MW-7-19940921	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	12/14/1994	MW-7-19941214	< 0.3	< 0.05	--	< 1	--	< 0.025	--	< 0.025	--	< 0.05	--	< 0.25	--	--	< 0.015	--	--	< 0.0002	--	--	< 0.025	< 0.05	--
MW-07	4/4/1995	MW-7-19950404	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	11/18/1995	MW-7-19951118	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	8/13/1996	MW-7-19960813	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	4/15/1997	MW-7-19970415	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	10/7/1997	MW-7-19971007	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	4/13/1998	MW-7-19980413	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	10/20/1998	MW-7-19981020	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	5/11/1999	MW-7-19990511	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	11/30/1999	MW-7-19991130	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	6/8/2000	MW-7-20000608	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	11/28/2000	MW-7-20001128	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4086	--	--	--	--	--	--	--	--	--
MW-07	8/22/2001	MW-7-20010822	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	12/3/2001	MW-7-20011203	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	6/24/2002	MW-7-20020624	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	12/19/2002	MW-7-20021219	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	5/29/2003	MW-7-20030529	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	12/24/2003	MW-7-20031224	--	--	--	--	--	--	--	--	--	--	--	--	--	0.24	--	--	--	--	--	--	--	--	--
MW-07	6/21/2004	MW-7-20040621	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-07	11/29/2004	MW-7-20041129	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28	--	--	--	--	--	--	--	--	--
MW-07	6/13/2005	MW-7-20050613	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	12/14/2005	MW-7-20051214	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	5/16/2006	MW-7-20060516	--	--	--	--	--	--	--	--	--	--	--	--	--	0.373	--	--	--	--	--	--	--	--	--
MW-07	10/11/2006	MW-7-20061011	--	--	--	--	--	--	--	--	--	--	--	--	--	0.327	--	--	--	--	--	--	--	--	--
MW-07	4/19/2007	MW-7-20070419	--	--	--	--	--	--	--	--	--	--	--	--	--	0.259	--	--	--	--	--	--	--	--	--
MW-07	11/19/2007	MW-7-20071119	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	8/7/2008	MW-7-20080807	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-07	7/10/2012	MW-7	--	< 0.0030	--	--	--	--	--	--	--	< 0.0030	--	--	--	< 0.80	--	--	--	--	--	--	0.0071	--	--
MW-07	9/27/2012	MW-7-092712-01	--	< 0.0050	--	--	--	--	--	--	--	< 0.0050	--	--	--	< 2.0	--	--	--	--	--	--	0.031	--	--
MW-07	11/19/2013	FC-07-111913	--	0.00025	--	--	--	--	--	--	--	< 0.0010	--	--	--	< 2.0	--	--	--	--	--	--	0.011	--	--
MW-07	9/10/2014	FCPP-07-091014	--	0.00032	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	0.0052	--	--
MW-07	3/16/2015	FCPP-07-031615	--	0.00050	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	0.0032	--	--
MW-07	8/26/2015	FCPP-7-082615	--	< 0.0060	--	--	--	--	--	--	--	< 0.0060	--	--	--	< 0.80	--	--	--	--	--	--	0.0064	--	--
MW-07	11/7/2015	FC-CCR-MW7-110715	0.00027	0.00060	--	0.017	--	0.0002	--	0.00014	--	0.00041	--	0.0028	--	0.35	0.00045	--	0.75	< 0.00020	--	0.0055	0.0038	0.000093	--
MW-07	11/7/2015	FC-CCR-MW7-110715	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	4/26/2016	FC-CCR-MW-7-042616	< 0.0025	0.00065	--	0.014	--	< 0.0010	--	< 0.00010	--	< 0.00050	--	0.0015	--	< 2.0	< 0.00050	--	1.0	< 0.00020	--	0.0039	0.0028	< 0.00010	1.9
MW-07	6/6/2016	FC-CCR-MW7-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.3
MW-07	6/6/2016	FC-CCR-MW7-616	0.00031	0.00075	--	0.017	--	< 0.0010	--	< 0.00010	--	< 0.00050	--	0.0020	--	0.41	0.00082	--	0.94	< 0.00020	--	0.0046	0.0026	0.00022	--
MW-07	8/21/2016	FC-CCR-MW7-816	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--
MW-07	8/21/2016	FC-CCR-MW7-816	0.00016	0.00055	--	0.017	--	< 0.0010	--	< 0.00010	--	< 0.00050	--	0.0015	--	< 0.40	< 0.00050	--	1.2	< 0.00020	--	0.033	0.011	0.00016	--
MW-07	8/21/2016	FC-CCR-MW7-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.7
MW-07	9/13/2016	FC-CCR-MW7-916	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--
MW-07	9/13/2016	FC-CCR-MW7-916	< 0.0025	< 0.0010	--	0.017	--	< 0.0010	--	0.0014	--	< 0.0025	--	0.0020	--	< 0.40	< 0.00050	--	0.90	< 0.00020	--	0.041	0.0064	0.00053	--
MW-07	9/13/2016	FC-CCR-MW7-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6
MW-07	10/20/2016	FC-CCR-MW7-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--
MW-07	10/20/2016	FC-CCR-MW7-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	2/2/2017	FC-CCR-MW7-117	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--
MW-07	2/2/2017	FC-CCR-MW7-117	< 0.0010	< 0.00050	--	0.016	--	< 0.0010	--	< 0.00010	--	0.00093	--	0.00065	--	< 0.40	< 0.00050	--	0.92	< 0.00020	--	0.0048	0.0063	0.00017	--
MW-07	2/2/2017	FC-CCR-MW7-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9
MW-07	4/18/2017	FC-CCR-MW7-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--
MW-07	4/18/2017	FC-CCR-MW7-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5
MW-07	4/18/2017	FC-CCR-MW7-41817	< 0.0010	0.00072	--	0.016	--	< 0.0010	--	< 0.00010	--	0.0023	--	< 0.00050	--	< 0.80	< 0.00050	--	0.85	< 0.00020	--	0.0039	0.0080	0.00011	--
MW-07	5/3/2017	FC-CCR-MW7-5317	< 0.0010	< 0.00050	--	0.015	--	< 0.0010	--	< 0.00010	--	0.0024	--	< 0.00050	--	5.1	< 0.00050	--	0.90	< 0.00020	--	0.0035	0.011	0.00010	--
MW-07	5/3/2017	FC-CCR-MW7-53117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6
MW-07	5/29/2017	FC-CCR-MW-72-52917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2
MW-07	5/30/2017	FC-CCR-MW7-53017	< 0.0010	0.00050	--	0.015	--	< 0.0010	--	< 0.00010	--	0.0025	--	< 0.00050	--	< 0.80	< 0.00050	--	0.79	< 0.00020	--	0.0041	0.0098	0.00015	--
MW-07	5/30/2017	FC-CCR-MW7-53017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6
MW-07	6/22/2017	FC-CCR-MW7-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	6/22/2017	FC-CCR-MW7-62217	--	--	--	--	--	< 0.0010	--	--	--	--	--	--	--	< 0.80	--	--	0.86	< 0.00020	--	--	--	--	--
MW-07	6/22/2017	FC-CCR-MW7-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2
MW-07	7/22/2017	FC-CCR-MW7-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--
MW-07	7/22/2017	FC-CCR-MW7-72217	< 0.0040	< 0.0020	--	0.014	--	< 0.0010	--	< 0.00040	--	< 0.0020	--	< 0.0020	--	--	< 0.0020	--	0.89	< 0.00020	--	0.0031	0.011	< 0.00040	--
MW-07	7/22/2017	FC-CCR-MW7-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9
MW-07	8/10/2017	FC-CCR-MW7-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	8/10/2017	FC-CCR-MW7-81017	< 0.010	0.00066	--	0.016	--	< 0.0010	--	< 0.0010	--	0.0017	--	< 0.00050	--	< 0.80	< 0.0050	--	0.90	< 0.00020	--	< 0.0050	0.015	< 0.0010	--
MW-07	8/10/2017	FC-CCR-MW7-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2
MW-07	8/17/2017	FC-CCR-MW7-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2
MW-07	8/17/2017	FC-CCR-MW7-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--
MW-07	9/10/2017	FC-CCR-MW7-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	9/10/2017	FC-CCR-MW7-91017	< 0.0040	0.0021	--	0.014	--	< 0.0010	--	< 0.00040	--	< 0.0040	--	< 0.0020	--	< 0.80	< 0.0020	--	0.83	< 0.00020	--	0.0035	0.013	< 0.00040	--
MW-07	9/10/2017	FC-CCR-MW7-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3
MW-07	10/12/2017	FC-CCR-MW7-101217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6
MW-07	10/12/2017	FC-CCR-MW7-101217	< 0.0010	0.00079	--	0.013	--	< 0.0010	--	< 0.00010	--	< 0.0010	--	< 0.00050	--	< 0.80	< 0.00050	--	0.81	< 0.00020	--	0.0031	0.015	0.00010	--
MW-07	11/30/2017	FC-CCR-MW7-113017	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--
MW-07	3/17/2018	FC-CCR-MW7-31718	--	--	--	--	--	--	--	--	--	--	--	--	--	0.49	--	--	--	--	--	--	--	--	--
MW-07	3/17/2018	FC-CCR-MW7-31718	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.9
MW-07	3/17/2018	*DUP* FC-CCR-FD02-31718	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.9
MW-07	6/1/2018	FC-CCR-MW-7-6118	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3
MW-07	6/1/2018	FC-CCR-MW-7-6118	--	< 0.010	--	0.017	--	--	--	< 0.0020	--	--	--	< 0.010	--	< 0.80	< 0.010	--	0.83	--	--	< 0.010	< 0.010	< 0.0020	--
MW-07	11/4/2018	FC-CCR-MW7-11418	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--
MW-07	11/4/2018	FC-CCR-MW7-11418	--	< 0.00050	--	0.014	--	--	--	< 0.00010	--	--	--	0.00056	--	--	< 0.00050	--	0.83	--	--	0.0070	0.0035	0.00010	--
MW-07	11/4/2018	FC-CCR-MW7-11418	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-07	3/19/2019	FC-CCR-MW7-031919	< 0.0010	0.00051	--	0.016	--	< 0.0010	--	< 0.00010	--	< 0.0010	--	< 0.00050	--	< 0.40	< 0.00050	--	0.79	< 0.00020	--	0.0054	0.0054	< 0.00010	--
MW-07	3/19/2019	FC-CCR-MW7-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-07	5/14/2019	FC-CCR-MW7-51419	--	0.00054	--	0.014	--	--	--	< 0.00010	--	--	--	< 0.00050	--	< 0.80	< 0.00050	--	0.87	--	--	0.0037	0.0041	< 0.00010	--
MW-07	5/14/2019	FC-CCR-MW7-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-07	11/19/2019	FC-CCR-MW7-111919	< 0.0010	0.00086	--	0.015	--	< 0.0010	--	0.00031	--	< 0.0010	--	0.00062	--	< 0.80	< 0.00050	--	0.85	< 0.00020	--	0.0057	0.0043	0.00010	--
MW-07	6/23/2020	FC-CCR-MW07-0620	< 0.004	< 0.002	--	0.0072	--	--	--	< 0.0004	--	< 0.004	--	< 0.002	--	< 0.8	< 0.002	--	1.3	--	--	0.0073	0.0041	< 0.0004	1.5
MW-07	11/6/2020	FC-CCR-MW07-1120	0.00024 J	0.0017 J	--	< 0.02 U / 0.014	--	< 0.001	--	0.000069 J	--	0.00055 J	--	0.00050	--	0.33 J	< 0.0005	--	0.90	< 0.0002	--	0.0052	0.0076 J	0.00010	1.4
MW-07	11/6/2020	*DUP* FC-CCR-FD05-1120	< 0.001 U	0.0025 J	--	0.0060 J	--	< 0.001	--	0.000062 J	--	0.00062 J	--	0.00059	--	0.37 J	< 0.001	--	0.92	< 0.0002	--	0.0052	0.011 J	0.00012 J	1.4
MW-07	4/27/2021	FC-CCR-MW07-0421	< 0.001 U	< 0.0013 U	--	0.019	--	< 0.001	--	< 0.0001	--	0.00073 J	--	0.000094 J	--	0.25 J	< 0.0005	--	0.87	< 0.0002	--	0.0022	0.027	< 0.0001 U	2.4 J
MW-07	4/27/2021	*DUP* FC-CCR-FD04-0421	< 0.001 U	< 0.0018 U	--	0.017	--	< 0.001	--	< 0.0001	--	0.00055 J	--	< 0.0005	--	0.26 J	< 0.0005	--	0.86	< 0.0002	--	0.0022	0.025	< 0.0001	0.9 J
MW-07	11/18/2021	FC-CCR-MW07-1121	0.00031 J	< 0.001	--	0.015	--	< 0.001	--	0.00012 J	--	0.0011 J	--	0.00055 J	--	0.25 J	< 0.0005	--	1.00	< 0.0002	--	0.0061	0.0031	0.00034	1.6
MW-07	5/26/2022	FC-CCR-MW07-0522	< 0.001	0.00052	--	0.015	--	< 0.001	--	< 0.0001	--	< 0.001	--	< 0.0005	--	< 0.8	< 0.0005	--	0.95	< 0.0002	--	0.0046	0.0095	< 0.0002	0.7 J
MW-07	11/16/2022	FC-CCR-MW07-1122	< 0.002	< 0.001	--	0.017	--	< 0.001	--	< 0.0002	--	< 0.002	--	< 0.001	--	< 2	< 0.001	--	1.0	< 0.0002	--	0.0034	0.0082	< 0.0002	1.5
MW-08	10/2/1987	MW-8_10/2/1987	--	--	< 0.05	--	0.20	--	--	--	< 0.005	--	< 0.005	--	--	< 0.5	--	< 0.05	--	--	< 0.0001	--	--	--	--
MW-08	6/16/1988	MW-8-19880616	--	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	< 0.001	--	--	--	--	--
MW-08	9/21/1988	MW-8-19880921	--	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--
MW-08	11/14/1988	MW-8-19881114	--	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--
MW-08	3/8/1989	MW-8-19890308	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--
MW-08	9/12/1989	MW-8-19890912	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--
MW-08	3/22/1990	MW-8-19900322	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-08	10/29/1990	MW-8-19901029	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-08	3/27/1991	MW-8-19910327	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-08	10/1/1991	MW-8-19911001	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-08	5/1/1992	MW-8-19920501	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-08	11/3/1992	MW-8-19921103	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-08	4/28/1993	MW-8-19930428	--	--	--	--	--	--	--	--	--	--	--	--	--	0.41	--	--	--	--	--	--	--	--	--
MW-08	11/30/1993	MW-8-19931130	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-08	4/28/1994	MW-8-19940428	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--
MW-08	11/16/1994	MW-8-19941116	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-08	12/14/1994	MW-8-19941214	< 0.3	< 0.05	--	< 1	--	< 0.025	--	< 0.025	--	< 0.05	--	< 0.25	--	--	< 0.015	--	--	< 0.0002	--	--	< 0.025	< 0.05	--
MW-08	4/5/1995	MW-8-19950405	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--

Additional Analyses

Well	Date	Sample ID	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Iron	Magnesium	Magnesium	Manganese	Potassium	Potassium	Radium 226	Radium 228	Selenium	Sodium	Sodium
		Filtered:	N	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	Y
		Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
		Multiunit 1 BTV	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--
		Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-06	11/7/2015	FC MW-6-(07115)	430	< 6.0	< 6.0	430	< 6.0	--	770	--	--	46	--	--	--	--	4,000	--
MW-06	6/20/2016	FC-Seep-MW6-616	460	< 6.0	< 6.0	460	< 6.0	--	670	--	--	47	--	--	--	--	3,900	--
MW-06	9/15/2016	FC-Seep-MW6-916	470	< 6.0	< 6.0	470	< 6.0	--	630	--	--	48	--	--	--	--	4,000	--
MW-06	3/19/2019	FC-CCR-MW6-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-06	3/19/2019	FC-CCR-MW6-031919	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.9	--	--	--
MW-06	5/14/2019	FC-CCR-MW6-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-06	5/14/2019	FC-CCR-MW6-51419	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.4	--	--	--
MW-06	11/19/2019	FC-CCR-MW6-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-06	6/23/2020	FC-CCR-MW06-0620	--	--	--	--	--	--	--	--	--	--	--	1.0	1.8	--	--	--
MW-06	11/7/2020	FC-CCR-MW06-1120	720	< 6	< 6	720	< 6	--	1,500	--	--	88	--	1.0	1.1	--	7,300	--
MW-06	4/26/2021	FC-CCR-MW06-0421	710	< 6	< 6	710	< 6	4.7	1,600	--	4.1	100	--	<0.4	<0.8	--	7,400	--
MW-06	11/16/2021	FC-CCR-MW06-1121	660	< 6	< 6	660	< 6	0.33	1,700	--	0.022	95	--	0.4	< 0.6	--	8,000	--
MW-06	2/8/2022	FC-CCR-MW06-0222	670	< 6	< 6	670	< 6	0.32	1,500	--	--	100	--	--	--	--	7,200	--
MW-06	5/25/2022	FC-CCR-MW06-0522	660	< 6	< 6	660	< 6	< 1	1,800	--	< 0.1	65	--	<0.3	<0.6	--	8,800	--
MW-06	9/1/2022	FC-CCR-MW06-0922	660	< 6	< 6	660	< 6	0.43	1,800	--	--	89	--	--	--	--	7,200	
MW-06	11/14/2022	FC-CCR-MW06-1122	660	< 6	< 6	660	< 6	0.30	1,600	--	< 0.071 U	100	--	< 0.3	< 0.6	--	8,100	--
MW-07	4/1/1987	MW-7_4/1/1987	--	--	--	140	--	--	--	400	--	--	21	--	--	< 0.05	--	770
MW-07	4/1/1987	MW-7 dup_4/1/1987	--	--	--	140	--	--	--	410	--	--	21	--	--	< 0.05	--	780
MW-07	9/30/1987	MW-7_9/30/1987	--	--	--	220	--	--	--	380	--	--	30	--	--	< 0.05	--	1,100
MW-07	6/16/1988	MW-7-19880616	231.8	--	--	190	< 0	--	352	--	--	30	--	--	--	--	980	--
MW-07	9/21/1988	MW-7-19880921	170.8	--	--	140	< 0	--	326	--	--	28	--	--	--	--	752	--
MW-07	11/14/1988	MW-7-19881114	244	--	--	200	< 0	--	397	--	--	39	--	--	--	--	872	--
MW-07	3/6/1989	MW-7-19890306	366	--	--	300	< 0	--	309	--	--	29	--	--	--	--	806	--
MW-07	9/12/1989	MW-7-19890912	305	--	--	250	< 0	--	285	--	--	29	--	--	--	--	800	--
MW-07	3/22/1990	MW-7-19900322	244	--	--	200	< 0	--	240	--	--	37	--	--	--	--	800	--
MW-07	9/24/1990	MW-7-19900924	183	--	--	150	< 0	--	200	--	--	30	--	--	--	--	820	--
MW-07	3/27/1991	MW-7-19910327	222	--	--	182	< 0	--	200	--	--	31	--	--	--	--	828	--
MW-07	9/24/1991	MW-7-19910924	305	--	--	250	< 0	--	260	--	--	36	--	--	--	--	812	--
MW-07	4/30/1992	MW-7-19920430	274.5	--	--	225	< 0	--	200	--	--	43	--	--	--	--	860	--
MW-07	10/27/1992	MW-7-19921027	244	--	--	200	< 0	--	200	--	--	36	--	--	--	--	720	--
MW-07	4/22/1993	MW-7-19930422	427	--	--	350	< 0	--	240	--	--	37	--	--	--	--	820	--
MW-07	11/22/1993	MW-7-19931122	275	--	--	225	< 0	--	260	--	--	34	--	--	--	--	780	--
MW-07	4/20/1994	MW-7-19940420	397	--	--	325	< 0	--	300	--	--	34	--	--	--	--	940	--
MW-07	9/21/1994	MW-7-19940921	366	--	--	300	< 0	--	260	--	--	42	--	--	--	--	940	--
MW-07	12/14/1994	MW-7-19941214	--	--	--	--	--	--	260	--	--	< 25	--	--	--	--	860	--
MW-07	4/4/1995	MW-7-19950404	305	--	--	250	< 0	--	280	--	--	38	--	--	--	--	880	--
MW-07	11/18/1995	MW-7-19951118	274.5	--	--	225	< 0	--	240	--	--	39	--	--	--	--	820	--
MW-07	8/13/1996	MW-7-19960813	366	--	--	300	< 0	--	240	--	--	33	--	--	--	--	760	--
MW-07	4/15/1997	MW-7-19970415	335.5	--	--	275	< 0	--	220	--	--	30	--	--	--	--	820	--
MW-07	10/7/1997	MW-7-19971007	305	--	--	250	< 0	--	240	--	--	25.8	--	--	--	--	880	--
MW-07	4/13/1998	MW-7-19980413	213.5	--	--	175	< 0	--	280	--	--	24.2	--	--	--	--	860	--
MW-07	10/20/1998	MW-7-19981020	366	--	--	300	< 0	--	260	--	--	22	--	--	--	--	700	--
MW-07	5/11/1999	MW-7-19990511	305	--	--	250	< 0	--	260	--	--	26.2	--	--	--	--	800	--
MW-07	11/30/1999	MW-7-19991130	366	--	--	300	< 0	--	280	--	--	24.8	--	--	--	--	1,140	--
MW-07	6/8/2000	MW-7-20000608	488	--	--	400	< 0	--	267	--	--	25.3	--	--	--	--	863	--
MW-07	11/28/2000	MW-7-20001128	488	--	--	400	< 0	--	144	--	--	24.8	--	--	--	--	1,020	--
MW-07	8/22/2001	MW-7-20010822	335.5	--	--	275	< 0	--	280	--	--	22	--	--	--	--	800	--
MW-07	12/3/2001	MW-7-20011203	366	--	--	300	< 0	--	260	--	--	22	--	--	--	--	1,060	--
MW-07	6/24/2002	MW-7-20020624	366	--	--	300	< 0	--	260	--	--	26.6	--	--	--	--	860	--
MW-07	12/19/2002	MW-7-20021219	244	--	--	200	< 0	--	280	--	--	24.6	--	--	--	--	920	--
MW-07	5/29/2003	MW-7-20030529	762.5	--	--	625	< 0	--	360	--	--	26.8	--	--	--	--	1,100	--
MW-07	12/24/2003	MW-7-20031224	1,617	--	--	1,325	< 0	--	300	--	--	30.2	--	--	--	--	1,120	--
MW-07	6/21/2004	MW-7-20040621	2,776	--	--	2,275	< 0	--	320	--	--	30.4	--	--	--	--	1,180	--
MW-07	11/29/2004	MW-7-20041129	2,867	--	--	2,350	< 0	--	280	--	--	28.6	--	--	--	--	1,210	--
MW-07	6/13/2005	MW-7-20050613	335.5	--	--	275	< 0	--	300	--	--	29.6	--	--	--	--	1,180	--
MW-07	12/14/2005	MW-7-20051214	488	--	--	400	< 0	--	366	--	--	26.6	--	--	--	--	1,710	--
MW-07	5/16/2006	MW-7-20060516	340.4	--	--	279	< 0	--	274	--	--	26.3	--	--	--	--	1,260	--
MW-07	10/11/2006	MW-7-20061011	370.9	--	--	304	< 0	--	330	--	--	33.8	--	--	--	--	1,550	--
MW-07	4/19/2007	MW-7-20070419	337.9	--	--	277	< 0	--	269	--	--	27.1	--	--	--	--	1,280	--
MW-07	11/19/2007	MW-7-20071119	434.3	--	--	356	< 0	--	258	--	--	25.1	--	--	--	--	1,490	--
MW-07	8/7/2008	MW-7-20080807	414.8	--	--	340	< 0	--	321	--	--	30.1	--	--	--	--	1,590	--
MW-07	7/10/2012	MW-7	470	< 6.0	< 6.0	470	< 6.0	--	440	--	--	36	--	--	--	--	2,000	--
MW-07	9/27/2012	MW-7-092712-01	390	< 6.0	< 6.0	390	< 6.0	--	800	--	--	39	--	--	--	--	2,600	--
MW-07	11/19/2013	FC-07-111913	420	< 6.0	< 6.0	420	< 6.0	--	580	--	--	38	--	--	--	--	1,500	--
MW-07	9/10/2014	FCPP-07-091014	440	< 6.0	< 6.0	440	< 6.0	--	530	--	--	37	--	--	--	--	2,100	--
MW-07	3/16/2015	FCPP-07-031615	470	< 6.0	< 6.0	470	< 6.0	--	480	--	--	37	--	--	--	--	2,400	--
MW-07	8/26/2015	FCPP-7-082615	470	< 6.0	< 6.0	470	< 6.0	--	400	--	--	40	--	--	--	--	2,300	--
MW-07	11/7/2015	FC-CCR-MW7-110715	560	< 5.0	--	560	--	--	390	--	--	30	--	--	--	--	1,900	--
MW-07	11/7/2015	FC-CCR-MW7-110715	--	--	--	--	--	--	--	--	--	--	--	0.611	1.19	--	--	--
MW-07	4/26/2016	FC-CCR-MW-7-042616	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.9	--	--	--
MW-07	6/6/2016	FC-CCR-MW7-616	--	--	--	--	--	--	--	--	--	--	--	0.9	2.4	--	--	--
MW-07	6/6/2016	FC-CCR-MW7-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	8/21/2016	FC-CCR-MW7-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	8/21/2016	FC-CCR-MW7-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	8/21/2016	FC-CCR-MW7-816	--	--	--	--	--	--	--	--	--	--	--	< 0.4	0.7	--	--	--
MW-07	9/13/2016	FC-CCR-MW7-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	9/13/2016	FC-CCR-MW7-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	9/13/2016	FC-CCR-MW7-916	--	--	--	--	--	--	--	--	--	--	--	0.7	1.9	--	--	--
MW-07	10/20/2016	FC-CCR-MW7-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	10/20/2016	FC-CCR-MW7-1016	--	--	--	--	--	--	--	--	--	--	--	0.4	--	--	--	--
MW-07	2/2/2017	FC-CCR-MW7-117	450	< 6.0	< 6.0	450	< 6.0	--	500	--	--	36	--	--	--	--	1,800	--
MW-07	2/2/2017	FC-CCR-MW7-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	2/2/2017	FC-CCR-MW7-117	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.9	--	--	--
MW-07	4/18/2017	FC-CCR-MW7-41817	490	< 6.0	< 6.0	490	< 6.0	--	600	--	--	38	--	--	--	--	2,000	--
MW-07	4/18/2017	FC-CCR-MW7-41817	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.5	--	--	--
MW-07	4/18/2017	FC-CCR-MW7-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	5/3/2017	FC-CCR-MW7-5317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	5/3/2017	FC-CCR-MW7-53117	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--	--	--
MW-07	5/29/2017	FC-CCR-MW-72-52917	--	--	--	--	--	--	--	--	--	--	--	< 0.4	2.2	--	--	--
MW-07	5/30/2017	FC-CCR-MW7-53017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	5/30/2017	FC-CCR-MW7-53017	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.6	--	--	--
MW-07	6/22/2017	FC-CCR-MW7-62217	500	< 6.0	< 6.0	500	< 6.0	--	620	--	--	36	--	--	--	--	1,700	--
MW-07	6/22/2017	FC-CCR-MW7-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	6/22/2017	FC-CCR-MW7-62217	--	--	--	--	--	--	--	--	--	--	--	< 0.3	1.2	--	--	--
MW-07	7/22/2017	FC-CCR-MW7-72217	500	< 6.0	< 6.0	500	< 6.0	--	620	--	--	36	--	--	--	--	1,700	--
MW-07	7/22/2017	FC-CCR-MW7-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	7/22/2017	FC-CCR-MW7-72217	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.9	--	--	--
MW-07	8/10/2017	FC-CCR-MW7-81017	510	< 6.0	< 6.0	510	< 6.0	--	630	--	--	36	--	--	--	--	1,700	--
MW-07	8/10/2017	FC-CCR-MW7-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	8/10/2017	FC-CCR-MW7-81017	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.2	--	--	--
MW-07	8/17/2017	FC-CCR-MW7-81717	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.2	--	--	--
MW-07	8/17/2017	FC-CCR-MW7-81717	520	< 6.0	< 6.0	520	< 6.0	--	670	--	--	43	--	--	--	--	1,700	--
MW-07	9/10/2017	FC-CCR-MW7-91017	510	< 6.0	< 6.0	510	< 6.0	--	610	--	--	35	--	--	--	--	1,600	--
MW-07	9/10/2017	FC-CCR-MW7-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	9/10/2017	FC-CCR-MW7-91017	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.3	--	--	--
MW-07	10/12/2017	FC-CCR-MW7-101217	--	--	--	--	--	--	--	--	--	--	--	1.4	1.2	--	--	--
MW-07	10/12/2017	FC-CCR-MW7-101217	510	< 6.0	< 6.0	510	< 6.0	--	550	--	--	34	--	--	--	--	1,600	--
MW-07	11/30/2017	FC-CCR-MW7-113017	500	< 6.0	< 6.0	500	< 6.0	--	560	--	--	38	--	--	--	--	1,900	--
MW-07	3/17/2018	FC-CCR-MW7-31718	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	3/17/2018	FC-CCR-MW7-31718	--	--	--	--	--	--	--	--	--	--	--	< 0.9	< 0.8	--	--	--
MW-07	3/17/2018	*DUP* FC-CCR-FD02-31718	--	--	--	--	--	--	--	--	--	--	--	< 0.9	< 0.8	--	--	--
MW-07	6/1/2018	FC-CCR-MW-7-6118	--	--	--	--	--	--	--	--	--	--	--	0.5	0.8	--	--	--
MW-07	6/1/2018	FC-CCR-MW-7-6118	510	< 6.0	< 6.0	510	< 6.0	--	470	--	--	34	--	--	--	--	1,700	--
MW-07	11/4/2018	FC-CCR-MW7-11418	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	11/4/2018	FC-CCR-MW7-11418	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	11/4/2018	FC-CCR-MW7-11418	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-07	3/19/2019	FC-CCR-MW7-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	3/19/2019	FC-CCR-MW7-031919	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-07	5/14/2019	FC-CCR-MW7-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	5/14/2019	FC-CCR-MW7-51419	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
MW-07	11/19/2019	FC-CCR-MW7-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-07	6/23/2020	FC-CCR-MW07-0620	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.8	--	--	--
MW-07	11/6/2020	FC-CCR-MW07-1120	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.4	--	--	--
MW-07	11/6/2020	*DUP* FC-CCR-FD05-1120	--	--	--	--	--	--	--	--	--	--	--	0.4	1.0	--	--	--
MW-07	4/27/2021	FC-CCR-MW07-0421	--	--	--	--	--	--	--	--	--	--	--	<0.4	2.4 J	--	--	--
MW-07	4/27/2021	*DUP* FC-CCR-FD04-0421	480	< 6	< 6	480	< 6	0.11	560	--	0.022	42	--	<0.4	0.9 J	--	1,500	--
MW-07	11/18/2021	FC-CCR-MW07-1121	--	--	--	--	--	--	--	--	--	--	--	< 0.3	1.6	--	--	--
MW-07	5/26/2022	FC-CCR-MW07-0522	--	--	--	--	--	--	--	--	--	--	--	<0.4	0.7 J	--	--	--
MW-07	11/16/2022	FC-CCR-MW07-1122	--	--	--	--	--	--	--	--	--	--	--	0.6	0.9	--	--	--
MW-08	10/2/1987	MW-8_10/2/1987	--	--	--	200	--	--	--	680	--	--	40	--	--	< 0.05	--	1,600
MW-08	6/16/1988	MW-8-19880616	414.8	--	--	340	< 0	--	578	--	--	43	--	--	--	--	1,920	--
MW-08	9/21/1988	MW-8-19880921	378.2	--	--	310	< 0	--	597	--	--	36	--	--	--	--	1,660	--
MW-08	11/14/1988	MW-8-19881114	366	--	--	300	< 0	--	648	--	--	39	--	--	--	--	1,030	--
MW-08	3/8/1989	MW-8-19890308	366	--	--	300	< 0	--	608	--	--	38	--	--	--	--	1,450	--
MW-08	9/12/1989	MW-8-19890912	366	--	--	300	< 0	--	470	--	--	32	--	--	--	--	1,300	--
MW-08	3/22/1990	MW-8-19900322	305	--	--	250	< 0	--	400	--	--	42	--	--	--	--	1,250	--
MW-08	10/29/1990	MW-8-19901029	274.5	--	--	225	< 0	--	400	--	--	28	--	--	--	--	1,300	--
MW-08	3/27/1991	MW-8-19910327	335.5	--	--	275	< 0	--	360	--	--	30	--	--	--	--	1,340	--
MW-08	10/1/1991	MW-8-19911001	305	--	--	250	< 0	--	365	--	--	30	--	--	--	--	1,210	--
MW-08	5/1/1992	MW-8-19920501	305	--	--	250	< 0	--	300	--	--	29	--	--	--	--	1,200	--
MW-08	11/3/1992	MW-8-19921103	366	--	--	300	< 0	--	250	--	--	31	--	--	--	--	1,375	--
MW-08	4/28/1993	MW-8-19930428	366	--	--	300	< 0	--	220	--	--	36	--	--	--	--	1,300	--
MW-08	11/30/1993	MW-8-19931130	305	--	--	250	< 0	--	260	--	--	40	--	--	--	--	1,300	--
MW-08	4/28/1994	MW-8-19940428	305	--	--	250	< 0	--	260	--	--	46	--	--	--	--	1,400	--
MW-08	11/16/1994	MW-8-19941116	305	--	--	250	< 0	--	240	--	--	40	--	--	--	--	1,500	--
MW-08	12/14/1994	MW-8-19941214	--	--	--	--	--	--	290	--	--	< 25	--	--	--	--	1,000	--
MW-08	4/5/1995	MW-8-19950405	305	--	--	250	< 0	--	240	--	--	35	--	--	--	--	1,100	--

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

					Appendix III Constituents										Appendix IV Constituents																							Additional Analyses															
				Constituent:	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Iron	Magnesium	Magnesium	Manganese	Potassium	Potassium	Radium 226	Radium 228	Selenium	Sodium	Sodium
				Filtered:	N	Y	N	Y	N	N	N	N	N	N	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	Y
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
				Multiunit 1 BTV	3.95	3.95	454.1	454.1	604.7	2.1	6.52-7.88	6.52-7.88	22,000	34,397	0.01	0.0086	0.009	0.042	0.042	0.001	0.001	0.002	0.002	0.02	0.02	0.01	0.01	5	0.01	0.01	1.8	0.0002	0.0002	0.12	0.092	0.017	4.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
				Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--	0.01	0.01	0.01	2	2	0.004	0.004	0.005	0.005	0.1	0.1	0.01	0.01	5	0.015	0.015	1.8	0.002	0.002	0.1	0.092	0.017	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	11/18/1995	MW-8-19951118	24.6	--	440	--	468.6	0.70	7.29	--	3,275	6,040	--	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--	305	--	--	250	< 0	--	240	--	--	41	--	--	--	--	1,200	--
MW-08	Multiunit 1	Downgradient	8/19/1996	MW-8-19960819	24.5	--	330	--	535.7	0.50	6.99	--	3,315	6,240	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	200	--	--	30	--	--	--	--	1,600	--
MW-08	Multiunit 1	Downgradient	6/24/1997	MW-8-19970624	21.8	--	410	--	425.7	0.50	7.04	--	3,023	6,050	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	549	--	--	450	< 0	--	220	--	--	23	--	--	--	--	1,000	--
MW-08	Multiunit 1	Downgradient	10/7/1997	MW-8-19971007	< 0.05	--	340	--	524.7	0.50	7.45	--	3,548	6,440	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	366	--	--	300	< 0	--	220	--	--	30	--	--	--	--	1,100	--
MW-08	Multiunit 1	Downgradient	4/14/1998	MW-8-19980414	--	--	400	--	503.9	0.50	6.94	--	3,317	6,690	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	366	--	--	300	< 0	--	240	--	--	24	--	--	--	--	1,300	--
MW-08	Multiunit 1	Downgradient	10/21/1998	MW-8-19981021	--	--	380	--	591.4	0.50	7.14	--	3,601	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	220	--	--	27	--	--	--	--	1,300	--
MW-08	Multiunit 1	Downgradient	5/11/1999	MW-8-19990511	24.8	--	--	--	496.6	0.50	7.23	--	3,337	6,530	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	396.5	--	--	325	< 0	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	12/1/1999	MW-8-19991201	24.5	--	460	--	505.3	0.50	7.09	--	3,380	6,190	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	335.5	--	--	275	< 0	--	220	--	--	26	--	--	--	--	1,500	--
MW-08	Multiunit 1	Downgradient	6/7/2000	MW-8-20000607	26.4	--	429	--	644.5	0.60	7.77	--	5,345	6,100	--	< 0.005	--	0.020	--	--	--	< 0.005	--	< 0.01	--	--	--	0.60	< 0.005	--	--	--	--	0.060	< 0.005	--	--	427	--	--	350	< 0	--	257	--	--	23.4	--	--	--	--	1,200	--
MW-08	Multiunit 1	Downgradient	12/12/2000	MW-8-20001212	25.2	--	520	--	507.8	0.58	--	--	3,299	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.58	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	260	--	--	31	--	--	--	--	1,700	--
MW-08	Multiunit 1	Downgradient	8/22/2001	MW-8-20010822	25.8	--	460	--	474.2	0.60	7.11	--	3,473	6,490	--	< 0.005	--	0.020	--	--	--	< 0.001	--	< 0.01	--	--	--	0.60	< 0.005	--	--	--	--	0.060	< 0.005	--	--	488	--	--	400	< 0	--	235	--	--	22	--	--	--	--	1,400	--
MW-08	Multiunit 1	Downgradient	12/3/2001	MW-8-20011203	24.1	--	540	--	590.4	0.60	6.60	--	4,089	7,360	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--	518.5	--	--	425	< 0	--	220	--	--	22	--	--	--	--	1,700	--
MW-08	Multiunit 1	Downgradient	6/24/2002	MW-8-20020624	25	--	400	--	508.9	0.50	7.22	--	3,665	7,190	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	518.5	--	--	425	< 0	--	260	--	--	30	--	--	--	--	1,400	--
MW-08	Multiunit 1	Downgradient	12/18/2002	MW-8-20021218	23.8	--	420	--	547.8	0.50	7.09	--	3,615	7,150	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	260	--	--	30	--	--	--	--	1,400	--
MW-08	Multiunit 1	Downgradient	6/3/2003	MW-8-20030603	--	--	420	--	465.7	0.60	6.95	--	3,007	6,060	--	--	--	0.010	--	0.12	0.010	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--	305	--	--	250	< 0	--	240	--	--	34	--	--	--	--	1,800	--
MW-08	Multiunit 1	Downgradient	9/23/2003	MW-8-20030923	28	--	330	--	505	0.66	6.83	--	3,708	7,090	--	--	--	--	--	--	--	--	--	--	--	--	--	0.66	--	--	--	--	--	--	--	--	--	366	--	--	300	< 0	--	320	--	--	33	--	--	--	--	1,300	--
MW-08	Multiunit 1	Downgradient	6/16/2004	MW-8-20040616	--	--	400	--	498.2	0.60	6.91	--	3,465	6,400	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--	2,532	--	--	2,075	< 0	--	260	--	--	31	--	--	--	--	1,100	--
MW-08	Multiunit 1	Downgradient	11/9/2004	MW-8-20041109	28.9	--	465	--	502.2	0.60	6.95	--	3,330	6,720	--	< 0.0005	--	0.0181	--	--	--	< 0.00005	--	0.0060	--	--	--	0.60	0.0013	--	--	--	--	0.0526	0.0040	--	--	2,898	--	--	2,375	< 0	--	317	--	--	24	--	--	--	--	1,280	--
MW-08	Multiunit 1	Downgradient	5/12/2005	MW-8-20050512	27.4	--	500	--	590.6	0.50	6.89	--	3,916	7,430	--	0.0019	--	0.0138	--	< 0.0005	--	< 0.001	--	0.0010	--	0.00259	--	0.50	0.0011	--	--	< 0.0002	--	--	0.0080	< 0.00005	--	488	--	--	400	< 0	--	340	--	--	32	--	--	--	--	1,100	--
MW-08	Multiunit 1	Downgradient	11/1/2005	MW-8-20051101	32.4	--	465	--	577.6	0.50	6.90	--	3,783	7,730	--	--	--	0.016	--	--	--	--	--	< 0	--	0.0030	--	0.50	--	--	--	--	--	0.045	--	--	--	427	--	--	350	< 0	--	371	--	--	26.7	--	--	--	--	1,540	--
MW-08	Multiunit 1	Downgradient	5/16/2006	MW-8-20060516	31.7	--	472	--	572	0.649	7.01	--	4,540	8,230	--	< 0.032	--	0.010	--	< 0.001	--	< 0.006	--	< 0.004	--	0.0030	--	0.649	< 0.012	--	--	--	--	0.056	< 0.038	< 0.005	--	412.4	--	--	338	< 0	--	355	--	--	24.7	--	--	--	--	1,480	--
MW-08	Multiunit 1	Downgradient	10/11/2006	MW-8-20061011	35.1	--	491	--	565	0.627	6.98	--	5,230	8,640	--	< 0.024	--	0.013	--	< 0.003	--	< 0.002	--	< 0.002	--	< 0.008	--	0.627	< 0.009	--	--	--	--	0.060	< 0.029	< 0.025	--	398.9	--	--	327	< 0	--	403	--	--	30.5	--	--	--	--	1,480	--
MW-08	Multiunit 1	Downgradient	4/18/2007	MW-8-20070418	31.2	--	473	--	674	1.03	7.03	--	5,170	8,420	< 0.028	< 0.024	--	0.011	--	< 0.003	--	< 0.002	--	< 0.002	--	< 0.008	--	1.03	< 0.009	--	--	< 0.0022	--	0.068	0.022	< 0.025	--	428.2	--	--	351	< 0	--	344	--	--	25.2	--	--	--	--	1,430	--
MW-08	Multiunit 1	Downgradient	11/14/2007	MW-8-20071114	23.4	--	413	--	640	0.70	6.96	--	5,900	9,690	0.0013	0.0014	--	0.0109	--	< 0.0005	--	< 0.00005	--	0.017	--	0.00233	--	0.70	< 0.1	--	--	--	--	0.0652	0.022	< 0.00005	--	456.3	--	--	374	< 0	--	365	--	--	23.9	--	--	--	--	1,520	--
MW-08	Multiunit 1	Downgradient	5/7/2008	MW-8-20080507	24.8	--	419	--	660	0.70	7.05	--	6,110	9,750	0.0008	0.0030	--	0.0101	--	< 0.0005	--	< 0.00005	--	0.0040	--	0.0031	--	0.70	0.00030	--	--	--	--	0.0784	0.0090	< 0.00005	--	512.4	--	--	420	< 0	--	406	--	--	27	--	--	--	--	1,570	--
MW-08	Multiunit 1	Downgradient	12/3/2009	MW-8-20091203	22.9	--	455	--	830	0.70	6.88	--	7,100	12,500	< 0.0005	0.0033	--	0.0127	--	< 0.0005	--	0.00013	--	0.011	--	0.00207	--	0.70	< 0.0001	--	--	< 0.0002	--	0.0518	0.011	< 0.00005	--	695.4	--	--	570	< 0	--	508	--	--	28.2	--	--	--	--	2,580	--
MW-08	Multiunit 1	Downgradient	9/27/2012	MW-8-092712-01	27	--	400	--	710	< 2.0	--	--	6,200	10,000	--	0.0017	--	--	--	--	--	--	--	< 0.0010	--	--	--	< 2.0	--	--	--	--	--	--	0.0012	--	--	420	< 6.0	< 6.0	420	< 6.0	--	400	--	--	29	--	--	--	--	2,100	--
MW-08	Multiunit 1	Downgradient	11/19/2013	FC-08-111913	2.2	--	450	--	680	< 4.0	--	--	5,800	9,900	--	0.0016	--	--	--	--	--	--	--	0.00051	--	--	--	< 4.0	--	--	--	--	--	--	< 0.0005	--	--	430	< 6.0	< 6.0	430	< 6.0	--	470	--	--	28	--	--	--	--	1,900	--
MW-08	Multiunit 1	Downgradient	9/10/2014	FCPP-08-091014	27	--	440	--	700	< 0.40	--	--	6,600	10,000	--	0.0012	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	< 0.00060	--	--	430	< 6.0	< 6.0	430	< 6.0	--	520	--	--	30	--	--	--	--	2,000	--
MW-08	Multiunit 1	Downgradient	3/17/2015	FCPP-08-031715	24	--	470	--	840	< 0.40	--	--	8,000	13,000	--	0.00064	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	< 0.00060	--	--	420	< 6.0	< 6.0	420	< 6.0	--	630	--	--	32	--	--	--	--	2,300	--
MW-08	Multiunit 1	Downgradient	6/29/2015	MW-8	23	--	460	--	930	< 0.80	--	7.05	7,900	14,000	--	< 0.0030	--	--	--	--	--	--	--	< 0.0030	--	--	--	< 0.80	--	--	--	--	--	--	0.0047	--	--	430	< 6.0	< 6.0	430	< 6.0	--	680	--	--	34	--	--	--	--	2,300	--
MW-08	Multiunit 1	Downgradient	8/26/2015	FCPP-8-082615	21	--	480	--	940	< 0.80	--	7.08	8,700	14,000	--	< 0.0060	--	--	--	--	--	--	--	< 0.0060	--	--	--	< 0.80	--	--	--	--	--	--	< 0.0060	--	--	420	< 6.0	< 6.0	420	< 6.0	--	660	--	--	40	--	--	--	--	2,500	--
MW-08	Multiunit 1	Downgradient	12/1/2015	FC-CCR-MW8-120115	17	--	500	--	880	< 0.25	--	--	9,100	13,000	0.0014	0.0091	--	0.15	--	0.0020	--	0.00096	--	0.020	--	0.019	--	< 0.25	0.033	--	1.1	0.00019	--	0.033	0.013	0.00054	--	540	< 5.0	--	540	--	--	760	--	--	34	--	--	--	--	2,600	--
MW-08	Multiunit 1	Downgradient	12/1/2015	FC-CCR-MW8-120115	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.78	1.88	--	--	--
MW-08	Multiunit 1	Downgradient	4/26/2016	FC-CCR-MW-8-042616	20	--	480	--	920	< 2.0	--	--	8,400	15,000	< 0.0050	< 0.0010	--	0.014	--	< 0.0010	--	0.00025	--	< 0.0010	--	0.0018	--	< 2.0	< 0.0010	--	1.2	< 0.00020	--	0.018	0.0015	< 0.00020	1.4	--	--	--	--	--	--	--	--	--	--	--	0.5	0.9	--	--	--
MW-08	Multiunit 1	Downgradient	6/7/2016	FC-CCR-MW8-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.3	--	--	--
MW-08	Multiunit 1	Downgradient	6/7/2016	FC-CCR-MW8-616	20	--	420	--	1,100	0.70	--	7.03	8,600	15,000	0.00054	0.00058	--	0.038	--	< 0.0010	--	0.00020	--	0.0016	--	0.0023	--	0.70	0.0014	--	1.1	< 0.00020	--	0.018	0.0013	0.00014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW8-816	19	--	460	--	980	0.61	--	6.9	8,600	15,000	--	--	--	--	--	--	--	--	--	--	--	--	--	0.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW8-816	--	--	--	--	--	< 0.40	--	--	--	--	0.00048	< 0.00050	--	0.014	--	< 0.0010	--	0.00022	--	0.00082	--	0.00093	--	< 0.40	< 0.00050	--	1.5	< 0.00020	--	0.049	0.0016	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW8-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--	--	--	--	< 0.3	1.3	--	--	--
MW-08	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW8-916	18	--	430	--	970	0.77	--	7.2	8,600	15,000	--	--	--	--	--	--	--	--	--	--	--	--	--	0.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW8-916	--	--	--	--	--	< 0.40	--	--	--	--	< 0.0025	< 0.0010	--	0.013	--	< 0.0010	--	0.00074	--	< 0.0025	--	0.0013	--	< 0.40	< 0.00050	--	1.1	< 0.00020	--	0.044	< 0.0030	< 0.00050	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW8-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.2	--	--	--
MW-08	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW8-41817	17	--	440	--	1,100	< 2.0	--	7.4	18,000	15,000	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--	510	< 6.0	< 6.0	510	< 6.0	--	780	--	--	37	--	--	--	--	3,200	--
MW-08	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW8-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.0	--	--	--
MW-08	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW8-41817	--	--	--	--	--	< 0.80	--	--	--	--	< 0.0010	0.00053	--	0.017	--	< 0.0010	--	0.00018	--	0.00075	--	0.00053	--	< 0.80	< 0.00050	--	1.1	< 0.00020	--	0.014	0.00084	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	5/3/2017	FC-CCR-MW8-5317	--	--	--	--	--	5.3	--	--	--	--	< 0.0010	< 0.00050	--	0.012	--	< 0.0010	--	0.00011	--	0.00060	--	< 0.00050	--	5.3	< 0.00050	--	1.2	< 0.00020	--	0.014	0.0015	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	5/3/2017	FC-CCR-MW8-5317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	--	--	--	--	0.5	1.4	--	--	--
MW-08	Multiunit 1	Downgradient	5/30/2017	FC-CCR-MW8-53017	--	--	--	--	--	< 2.0	--	--	--	--	< 0.0010	0.00070	--	0.013	--	< 0.0010	--	0.00013	--	0.00077	--	< 0.00050	--	< 2.0	< 0.00050	--	1.1	< 0.00020	--	0.016	0.0016	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	5/30/2017	FC-CCR-MW8-53017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.2	--	--	--
MW-08	Multiunit 1	Downgradient	6/1/2018	FC-CCR-MW-8-6118	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-08	Multiunit 1	Downgradient	6/1/2018	FC-CCR-MW-8-6118	15	--	420	--	1,100	0.91	--	7.3	9,800	15,000	--	< 0.010	--	0.011	--	--	--	< 0.0020	--	--	--	< 0.010	--	0.91	< 0.010	--	1.2	--	--	0.011	< 0.010	< 0.0020	--	510	< 6.0	< 6.0	510	< 6.0	--	750	--	--	37	--	--	--	--	1,300	--
MW-08	Multiunit 1	Downgradient	11/4/2018	FC-CCR-MW8-11418	14	--	390	--	1,200	< 0.80	--	7.3	10,000	15,000	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	11/4/2018	FC-CCR-MW8-11418	--	--	--	--	--	--	--	--	--	--	--	0.00064	--	0.0090	--	--	--	0.00015	--	--	--	< 0.00050	--	--	< 0.00050	--	1.1	--	--	0.011	0.0014	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	11/4/2018	FC-CCR-MW8-11418	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-08	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW8-031919	--	--	--	--	--	0.41	--	--	--	--	< 0.0010	< 0.00050	--	0.011	--	< 0.0010	--	0.00029	--	< 0.0010	--	< 0.00050	--	0.41	< 0.00050	--	1.1	< 0.00020	--	0.011	0.0013	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW8-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.3	--	--	--
MW-08	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW8-51419	14	--	430	--	1,100	< 0.80	--	7.4 J	10,000	15,000	--	< 0.00050	--	0.010	--	--	--	< 0.00010	--	--	--	< 0.00050	--	< 0.80	< 0.00050	--	1.2	--	--	0.013	0.0012	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW8-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.1	--	--	--
MW-08	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW8-111919	15	--	420	--	1,200	< 0.80	--	7.1 J	9,600	15,000	< 0.0010	< 0.0010	--	0.011	--	< 0.0010	--	0.00012	--	< 0.0010	--	< 0.00050	--	< 0.80	< 0.00050	--	1.2	< 0.00020	--	0.011	0.0014	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-08	Multiunit 1	Downgradient	6/23/2020	FC-CCR-MW08-0620	18	--	440	--	1,000	< 0.8 UJ	--	7.4 J	9,500	15,000	< 0.004	< 0.002	--	0.0050 J	--	--	--	< 0.0004	--	< 0.004	--	< 0.002	--	< 0.8 UJ	< 0.002	--	--	--	--	0.014 J	< 0.002	< 0.0004	0.7	490	< 6	< 6	490	< 6	--	830	--	--	35	--	< 0.4	0.7	--	3,100	--
MW-08	Multiunit 1	Downgradient	6/23/2020	*DUP* FC-CCR-FD04-0620	19	--	460	--	970	< 0.8 UJ	6.76	7.3 J	9,300	14,000	< 0.001	0.00077	--	0.0097 J	--	--	--	0.00021	--	< 0.001	--	< 0.0005	--	< 0.8 UJ	0.00074	--	--	--	--	0.011 J	0.00080	< 0.0001	--	490	< 6	< 6	490	< 6	--	830	--	--	37	--	--	--	--	3,100	--
MW-08	Multiunit 1	Downgradient	11/6/2020	FC-CCR-MW08-1120	21	--	470	--	830	0.58 J	6.80	7.2 J	9,100	14,000	0.00034 J	0.0025	--	< 0.02 / 0.011	--	< 0.001	--	0.00029	--	< 0.001	--	0.00070 J	--	0.58 J	< 0.001	--	1.1	< 0.0002	--	0.013	0.0048	0.00016 J	< 0.8	540	< 6	< 6	540	< 6	--	940	--	--	47	--	< 0.4	< 0.8	--	2,700	--
MW-08	Multiunit 1	Downgradient	4/27/2021	FC-CCR-MW08-0421	20	--	450	--	860	0.42 J	7.53	7.3 J	9,400	14,000	< 0.001 U	< 0.0015 U	--	0.011	--	< 0.001	--	< 0.0001 U	--	< 0.001	--	0.0012	--	0.42 J	< 0.0005	--	1.1	< 0.0002	--	0.017	< 0.001 U	< 0.0001	<0.8	570	< 6	< 6	570	< 6	--	920	--	--	44	--	<0.5	<0.8	--	2,600	--
MW-08	Multiunit 1	Downgradient	11/18/2021	FC-CCR-MW08-1121	18	--	420	--	970	0.56 J	6.83	7.5 J	11,000	14,000	0.00033 J	< 0.001	--	0.0097	--	< 0.001	--	0.0012	--	< 0.002	--	0.00062 J	--	0.56 J	< 0.0005	--	1.2	< 0.0002	--	0.018	0.0005	0.00014	1.3	490	< 6	< 6	490	< 6	--	910	--	--	35	--	0.4	0.9	--	2,800	--
MW-08	Multiunit 1	Downgradient	5/24/2022	FC-CCR-MW08-0522	17	--	420	--	1,100	< 0.8	6.78	7.65 J	10,000	15,000	< 0.001	0.00056	--	0.011	--	< 0.001	--	0.00014	--	< 0.001	--	< 0.0005	--	< 0.8	< 0.0005	--	1.2	< 0.0002	--	0.015	0.0015	< 0.0002	1.1	490	< 6	< 6	490	< 6	--	970	--	--	38	--	<0.4	1.1	--	3,000	--
MW-08	Multiunit 1	Downgradient	5/24/2022	FC-CCR-SS06-0522	17	--	444	--	1,070	< 50 / 0.7	6.78	7.9 J	10,600	16,100	< 0.02	< 0.01	--	0.0102 J	--	< 0.0025	--	< 0.0025	--	< 0.02	--	0.00144 J	--	< 50 / 0.7	< 0.005	--	1.21	< 0.001	--	0.0154	< 0.0025	< 0.005	--	--	--	--	--	--	< 1.5	901	--	< 0.5	37.1	--	--	--	--	2,940	--
MW-08	Multiunit 1	Downgradient	11/16/2022	FC-CCR-MW08-1122	16	--	460	--	1,000	< 4	6.88	7.2 J	9,900	16,000	< 0.002	< 0.001	--	0.011	--	< 0.001	--	< 0.0002	--	< 0.002	--	< 0.001	--	< 4	< 0.001	--	1.3	< 0.0002	--	0.013	< 0.001	< 0.0002	3.0	490	< 6	< 6	490	< 6	--	1,000	--	--	39	--	1.1	1.9	--	3,300	--
MW-15	Multiunit 1	Downgradient	9/30/1987	MW-15 9/30/1987	--	0.82	--	440	370	< 0.5	7.30	7.3	6,200	9,500	--	--	< 0.05	--	0.18	--	--	--	< 0.005	--	< 0.005	--	--	< 0.5	--	0.070	--	--	< 0.0001	--	--	--	--	--	--	--	320	--	--	--	680	--	--	37	--	--	< 0.05	--	1,400
MW-15	Multiunit 1	Downgradient	6/20/1988	MW-15-19880620	--	--	452	--	393	2.0	7.13	--	5,224	8,618	--	--	--	--	--	--	--	--	--	--	--	--	--	2.0	--	--	--	< 0.001	--	--	--	--	--	388	--	--	318	< 0	--	614	--	--	41	--	--	--	--	1,250	--
MW-15	Multiunit 1	Downgradient	9/22/1988	MW-15-19880922	1.0	--	411	--	200	0.40	7.05	--	4,630	8,570	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--	414.8	--	--	340	< 0	--	582	--	--	34	--	--	--	--	1,180	--
MW-15	Multiunit 1	Downgradient	11/14/1988	MW-15-19881114	1.0	--	409	--	338	0.60	7.13	--	4,808	8,760	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--	402.6	--	--	330	< 0	--	677	--	--	39	--	--	--	--	1,160	--
MW-15	Multiunit 1	Downgradient	3/8/1989	MW-15-19890308	2.0	--	431	--	413	0.50	7.16	--	4,980	8,535	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	514	--	--	33	--	--	--	--	1,260	--
MW-15	Multiunit 1	Downgradient	9/13/1989	MW-15-19890913	2.0	--	380	--	326	0.40	7.08	--	4,974	8,600	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	580	--	--	40	--	--	--	--	1,100	--
MW-15	Multiunit 1	Downgradient	3/22/1990	MW-15-19900322	2.0	--	420	--	301	0.30	7.20	--	4,616	7,870	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	366	--	--	300	< 0	--	520	--	--	41	--	--	--	--	1,050	--
MW-15	Multiunit 1	Downgradient	9/24/1990	MW-15-19900924	2.0	--	430	--	341	0.20	7.19	--	4,790	8,120	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	396.5	--	--	325	< 0	--	600	--	--	40	--	--	--	--	1,200	--
MW-15	Multiunit 1	Downgradient	3/27/1991	MW-15-19910327	3.0	--	436	--	298	0.20	7.12	--	4,544	7,660	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	427	--	--	350	< 0	--	480	--	--	40	--	--	--	--	925	--
MW-15	Multiunit 1	Downgradient	9/27/1991	MW-15-19910927	2.0	--	434	--	313.6	0.20	7.19	--	4,306	7,720	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	396.5	--	--	325	< 0	--	600	--	--	45	--	--	--	--	935	--
MW-15	Multiunit 1	Downgradient	5/1/1992	MW-15-19920501	5.0	--	460	--	299	0.30	7.18	--	4,624	7,075	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	366	--	--	300	< 0	--	500	--	--	39	--	--	--	--	900	--
MW-15	Multiunit 1	Downgradient	10/28/1992	MW-15-19921028	4.0	--	420	--	289.8	0.30	7.15	--	4,122	7,110	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	396.5	--	--	325	< 0	--	600	--	--	40	--	--	--	--	900	--
MW-15	Multiunit 1	Downgradient	4/23/1993	MW-15-19930423	3.0	--	340	--	375	0.28	7.28	--	4,593	7,760	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28	--	--	--	--	--	--	--	--	--	518.5	--	--	425	< 0	--	400	--	--	41	--	--	--	--	1,220	--
MW-15	Multiunit 1	Downgradient	11/22/1993	MW-15-19931122	4.0	--	420	--	338	0.30	7.05	--	4,192	7,430	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	396.5	--	--	325	< 0	--	500	--	--	51	--	--	--	--	1,000	--
MW-15	Multiunit 1	Downgradient	4/20/1994	MW-15-19940420	5.0	--	440	--	356	0.20	7.13	--	4,556	7,200	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	500	--	--	54	--	--	--	--	920	--
MW-15	Multiunit 1	Downgradient	11/8/1994	MW-15-19941108	6.0	--	480	--	357	0.20	7.02	--	4,354	7,240	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	610	--	--	500	< 0	--	500	--	--	50	--	--	--	--	1,120	--
MW-15	Multiunit 1	Downgradient	4/5/1995	MW-15-19950405	7.0	--	460	--	322	0.20	7.10	--	4,012	6,820	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	500	--	--	43	--	--	--	--	840	--
MW-15	Multiunit 1	Downgradient	11/18/1995	MW-15-19951118	6.48	--	460	--	349.4	0.20	6.98	--	4,301	6,260	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	396.5	--	--	325	< 0	--	500	--	--	47	--	--	--	--	1,000	--
MW-15	Multiunit 1	Downgradient	8/14/1996	MW-15-19960814	5.93	--	440	--	347.1	0.20	7.06	--	4,226	7,360	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	427	--	--	350	< 0	--	500	--	--	37	--	--	--	--	960	--
MW-15	Multiunit 1	Downgradient	4/23/1997	MW-15-19970423	7.72	--	440	--	312	0.20	7.22	--	3,776	6,780	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	518.5	--	--	425	< 0	--	400	--	--	35	--	--	--	--	900	--
MW-15	Multiunit 1	Downgradient	10/8/1997	MW-15-19971008	< 0.05	--	400	--	429.4	0.20	7.39	--	4,344	7,780	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	400	--	--	36	--	--	--	--	1,120	--
MW-15	Multiunit 1	Downgradient	4/14/1998	MW-15-19980414	--	--	420	--	348.5	0.20	7.02	--	3,772	7,260	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	335.5	--	--	275	< 0	--	400	--	--	32	--	--	--	--	1,150	--
MW-15	Multiunit 1	Downgradient	5/11/1999	MW-15-19990511	1.8	--	460	--	322.5	0.20	7.23	--	3,712	7,040	--	< 0.005	--	0.020	--	--	--	< 0.001	--	< 0.01	--	--	--	0.20	< 0.005	--	--	--	--	< 0.01	< 0.005	--	--	457.5	--	--	375	< 0	--	400	--	--	32	--	--	--	--	820	--
MW-15	Multiunit 1	Downgradient	12/1/1999	MW-15-19991201	10.1	--	520	--	355.8	0.20	7.19	--	3,877	7,000	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	366	--	--	300	< 0	--	400	--	--	31	--	--	--	--	1,180	--
MW-15	Multiunit 1	Downgradient	6/8/2000	MW-15-20000608	9.45	--	454	--	519.1	0.20	7.61	--	5,662	6,970	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	549	--	--	450	< 0	--	573	--	--	31.3	--	--	--	--	1,260	--
MW-15	Multiunit 1	Downgradient	12/12/2000	MW-15-20001212	9.45	--	480	--	373.7	0.2524	6.90	--	3,803	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2524	--	--	--	--	--	--	--	--	--	549	--	--	450	< 0	--	400	--	--	40	--	--	--	--	1,600	--
MW-15	Multiunit 1	Downgradient	8/22/2001	MW-15-20010822	10.9	--	435	--	328.1	0.20	7.00	--	3,958	7,170	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	460	--	--	32	--	--	--	--	1,310	--
MW-15	Multiunit 1	Downgradient	12/3/2001	MW-15-20011203	11.5	--	600	--	299.8	0.20	6.86	--	3,944	6,910	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	350	--	--	38	--	--	--	--	1,040	--
MW-15	Multiunit 1	Downgradient	6/24/2002	MW-15-20020624	11.7	--	420	--	358.2	0.20	7.31	--	4,014	7,450	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	579.5	--	--	475	< 0	--	400	--	--	33	--	--	--	--	1,060	--
MW-15	Multiunit 1	Downgradient	12/18/2002	MW-15-20021218	12.2	--	440	--	317.3	0.20	7.07	--	3,900	7,390	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	400	--	--	41	--	--	--	--	1,060	--
MW-15	Multiunit 1	Downgradient	5/28/2003	MW-15-20030528	13.9	--	460	--	342.8	0.20	6.88	--	3,640	7,150	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	400	--	--	36	--	--	--	--	800	--
MW-15	Multiunit 1	Downgradient	12/24/2003	MW-15-20031224	12.6	--	340	--	328	0.30	6.99	--	3,708	7,330	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	1,922	--	--	1,575	< 0	--	500	--	--	42	--	--	--	--	9,000	--
MW-15	Multiunit 1	Downgradient	6/16/2004	MW-15-20040616	--	--	420	--	365.6	0.20	6.95	--	4,043	7,680	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	1,678	--	--	1,375	< 0	--	500	--	--	40	--	--	--	--	220	--
MW-15	Multiunit 1	Downgradient	11/29/2004	MW-15-20041129	15.2	--	500	--	402.8	0.30	7.08	--	2,727	7,900	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	3,874	--	--	3,175	< 0	--	480	--	--	34	--	--	--	--	980	--
MW-15	Multiunit 1	Downgradient	5/13/2005	MW-15-20050513	11.2	--	440	--	368.2	0.30	7.00	--	4,053	7,840	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	400	--	--	51	--	--	--	--	960	--
MW-15	Multiunit 1	Downgradient	12/14/2005	MW-15-20051214	14	--	464	--	357	--	6.95	--	3,943	7,890	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	549	--	--	450	< 0	--	526	--	--	26.6	--	--	--	--	1,250	--
MW-15	Multiunit 1	Downgradient	6/17/2006	MW-15-20060617	13.5	--	454	--	328	0.177	6.98	--	4,590	7,730	--	--	--	--	--	--	--	--	--	--	--	--	--	0.177	--	--	--	--	--	--	--	--	--	439.2	--	--	360	< 0	--	450	--	--	25.4	--	--	--	--	1,080	--
MW-15	Multiunit 1	Downgradient	10/11/2006	MW-15-20061011	12.9	--	445	--	366	0.221	7.00	--	4,980	7,940	--	--	--	--	--	--	--	--	--	--	--	--	--	0.221	--	--	--	--	--	--	--	--	--	442.9	--	--	363	< 0	--	456	--	--	33.5	--	--	--	--	1,150	--
MW-15	Multiunit 1	Downgradient	4/18/2007	MW-15-20070418	13.9	--	441	--	395	0.373	7.08	--	4,770	7,760	--	--	--	--	--	--	--	--	--	--	--	--	--	0.373	--	--	--	--	--	--	--	--	--	450.2	--	--	369	< 0	--	432	--	--	29.5	--	--	--	--	1,080	--
MW-15	Multiunit 1	Downgradient	11/14/2007	MW-15-20071114	11.3	--	377	--	480	0.30	7.04	--	5,400	8,610	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	512.4	--	--	420	< 0	--	367	--	--	27	--	--	--	--	1,240	--
MW-15	Multiunit 1	Downgradient	5/7/2008	MW-15-20080507	11.7	--	382	--	320	0.20	7.08	--	5,440	8,160	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	549	--	--	450	< 0	--	414	--	--	29.5	--	--	--	--	1,180	--
MW-15	Multiunit 1	Downgradient	11/19/2013	FC-15MS-111913	--	--	490	--	--	--	--	--	--	--	--	< 0.0020	--	--	--	--	--	--	--	0.0020	--	--	--	--	--	--	--	--	--	--	< 0.0020	--	--	--	--	--	--	--	--	520	--	--	30	--	--	--	--	1,900	--
MW-15	Multiunit 1	Downgradient	11/19/2013	FC-15-111913	11	--	480	--	830	< 4.0	--	--	5,500	9,600	--	0.00051	--	--	--	--	--	--	--	0.00054	--	--	--	< 4.0	--	--	--	--	--	--	< 0.0005	--	--	530	< 6.0	< 6.0	530	< 6.0	--	510	--	--	33	--	--	--	--	1,900	--
MW-15	Multiunit 1	Downgradient	9/9/2014	FCPP-15-090914	9.4	--	450	--	910	< 0.40	--	--	5,800	10,000	--	0.00031	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	< 0.00060	--	--	560	< 6.0	< 6.0	560	< 6.0	--	520	--	--	38	--	--	--	--	2,100	--
MW-15	Multiunit 1	Downgradient	3/17/2015	FCPP-15-031715	9.2	--	450	--	1,000	< 0.40	--	--	6,300	11,000	--	0.00037	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	< 0.00060	--	--	560	< 6.0	< 6.0	560	< 6.0	--	510	--	--	34	--	--	--	--	2,000	--
MW-15	Multiunit 1	Downgradient	6/29/2015	MW-15	9.1	--	410	--	1,000	< 0.80	--	7.05	5,700	11,000	--	< 0.0030	--	--	--	--	--	--	--	< 0.0030	--	--	--	< 0.80	--	--	--	--	--	--	0.0062	--	--	560	< 6.0	< 6.0	560	< 6.0	--	500	--	--	34	--	--	--	--	2,000	--
MW-15	Multiunit 1	Downgradient	8/26/2015	FCPP-15-082615	8.8	--	420	--	1,100	< 0.80	--	7.08	6,500	11,000	--	< 0.0060	--	--	--	--	--	--	--	< 0.0060	--	--	--	< 0.80	--	--	--	--	--	--	< 0.0060	--	--	570	< 6.0	< 6.0	570	< 6.0	--	450	--	--	38	--	--	--	--	2,300	--
MW-15	Multiunit 1	Downgradient	6/18/2016	FC-Seep-MW15-616	8.6	--	470	--	1,100	< 0.40	--	7.19	6,100	11,000	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	--	580	--	--	38	--	--	--	--	2,100	--
MW-15	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW15-916	8.5	--	430	--	1,200	< 0.40	--	7.0	7,400	11,000	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--	150	< 6.0	< 6.0	150	< 6.0	--	510	--	--	38	--	--	--	--	2,200	--
MW-15	Multiunit 1	Downgradient	3/20/2019	FC-CCR-MW15-032019	--	--	--	--	--	< 0.80	--	--	--	--	< 0.0010	< 0.00050	--	0.020	--	< 0.0010	--	0.00015	--	< 0.0010	--	0.0020	--	< 0.80	< 0.00050	--	0.92	< 0.00020	--	0.036	0.00071	0.00018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	Multiunit 1	Downgradient	3/20/2019	FC-CCR-MW15-032019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
MW-15	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW15-51419	8.3	--	440	--	940	< 0.80	--	7.0 J	6,400	11,000	--	< 0.00050	--	0.019	--	--	--	< 0.00010	--	--	--	0.0022	--	< 0.80	0.00062	--	0.91	--	--	0.0096	< 0.00050	< 0.00010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW15-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-15	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW15-111919	8.2	--	440	--	1,000	< 0.80	--	6.9 J	6,600	11,000	< 0.0010	< 0.0010	--	0.018	--	< 0.0010	--	< 0.00010	--	< 0.0010	--	0.0022	--	< 0.80	< 0.00050	--	0.91	< 0.00020	--	0.0034	< 0.00050	0.00012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	Multiunit 1	Downgradient	6/23/2020	FC-CCR-MW15-0620	8.8	--	440	--	990	< 0.8	6.62	7.0 J	6,600	12,000	< 0.002	0.0010	--	0.019	--	--	--	< 0.0002	--	< 0.002	--	0.0016	--	< 0.8	< 0.001	--	1.2	--	--	0.0018	< 0.001	< 0.0002	< 0.8	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--	--
MW-15	Multiunit 1	Downgradient	11/6/2020	FC-CCR-MW15-1120	7.9	--	430	--	1,000	< 0.4	6.68	7.2 J	6,800	11,000	0.00041	0.0014	--	0.019	--	< 0.001	--	0.000092	--	0.0016	--	0.0030	--	< 0.4	< 0.001	--	1.0	--	--	0.0020	0.0030	0.00014	< 0.8	660	< 6	< 6	660	< 6	--	640	--	--	41	--	< 0.4	< 0.8	--	2,200	--
MW-15	Multiunit 1	Downgradient	4/27/2021	FC-CCR-MW15-0421	7.8	--	470	--	1,000	0.27 J	7.38	7.2 J	6,400	11,000	< 0.004	< 0.002	--	0.021	--	< 0.001	--	< 0.0004	--	< 0.004	--	0.0017 J	--	0.27 J	0.0019 J	--	0.96	--	--	0.0016 J	0.0037	< 0.0004 U	<0.8	700	< 6	< 6	700	< 6	0.17	710	--	1.0	47	--	<0.4	<0.8	--	2,100	--
MW-15	Multiunit 1	Downgradient	11/18/2021	FC-CCR-MW15-1121	7.3	--	420	--	1,200	0.37 J	6.66	7.4 J	8,400	11,000	< 0.002 U	0.0012	--	0.020	--	< 0.001	--	0.000076 J	--	< 0.002	--	0.0016	--	0.37 J	< 0.0005	--	0.97	--	--	0.0014	0.0005	0.00013	0.6	630	< 6	< 6	630	< 6	0.11	630	--	0.72	37	--	0.6	< 0.6	--	2,100	--
MW-15	Multiunit 1	Downgradient	2/8/2022	FC-CCR-MW15-0222	8.2	--	480	--	1,100	0.18	6.51	7.3 J	7,100	11,000	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0019	--	0.18	--	--	1.0	--	--	0.0010	--	--	--	680	< 6	< 6	680	< 6	0.13	730	--	--	43	--	--	--	--	2,100	--
MW-15	Multiunit 1	Downgradient	5/24/2022	FC-CCR-MW15-0522	7.9	--	440	--	1,000	< 0.8	6.78	7.50 J	6,500	12,000	< 0.001	< 0.001	--	0.019	--	< 0.001	--	0.00011	--	< 0.001	--	0.0018	--	< 0.8	< 0.001	--	1.0	--	--	0.0012	0.0021	< 0.0004	<0.6	680	< 6	< 6	680	< 6	0.12	680	--	1.1	42	--	<0.3	<0.6	--	2,300	--
MW-15	Multiunit 1	Downgradient	8/13/2022	FC-CCR-MW15-0822	8.1	--	470	--	1,000	< 0.8	6.70	7.0 J	6,700	11,000	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0015	--	< 0.8	--	--	0.99	--	--	0.0013	--	--	--	660	< 6	< 6	660	< 6	0.11	720	--	--	39	--	--	--	--	2,100	--
MW-15	Multiunit 1	Downgradient	11/16/2022	FC-CCR-MW15-1122	7.8	--	470	--	1,000	< 2	6.67	7.1 J	6,600	12,000	< 0.002	< 0.001	--	0.019	--	< 0.001	--	< 0.0002	--	< 0.002	--	< 0.001	--	< 2	< 0.001	--	1.0	--	--	0.0013	< 0.001	< 0.0002	< 0.7	880	< 6	< 6	880	< 6	< 0.1	710	--	0.56	40	--	< 0.3	< 0.7	--	2,300	--
MW-16	Multiunit 1	Downgradient	9/30/1987	MW-16 9/30/1987	--	1.3	--	410	770	< 0.5	7.38	7.4	12,000	20,000	--	--	< 0.05	--	0.22	--	--	--	< 0.005	--	< 0.005	--	--	< 0.5	--	0.060	--	--	< 0.0001	--	--	--	--	--	--	--	330	--	--	--	1,200	--	--	58	--	--	< 0.05	--	4,400
MW-16	Multiunit 1	Downgradient	6/20/1988	MW-16-19880620	--	--	412	--	685	0.50	7.41	--	6,063	19,249	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	< 0.001	--	--	--	--	--	407.5	--	--	334	< 0	--	1,150	--	--	59	--	--	--	--	4,250	--
MW-16	Multiunit 1	Downgradient	9/21/1988	MW-16-19880921	2.0	--	378	--	664	0.60	7.15	--	11,592	20,028	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	1,200	--	--	53	--	--	--	--	3,870	--
MW-16	Multiunit 1	Downgradient	11/14/1988	MW-16-19881114	2.0	--	358	--	620	0.50	7.30	--	11,983	20,760	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	463.6	--	--	380	< 0	--	1,510	--	--	73	--	--	--	--	3,420	--
MW-16	Multiunit 1	Downgradient	3/8/1989	MW-16-19890308	2.0	--	347	--	683	0.60	7.30	--	12,519	19,880	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	1,130	--	--	59	--	--	--	--	3,740	--
MW-16	Multiunit 1	Downgradient	9/13/1989	MW-16-19890913	2.0	--	320	--	549	0.60	7.31	--	11,421	18,780	--	--	--	--	--	--	--	--	--	--	--	--	--	0.60	--	--	--	--	--	--	--	--	--	366	--	--	300	< 0	--	1,173	--	--	56	--	--	--	--	3,500	--
MW-16	Multiunit 1	Downgradient	3/26/1990	MW-16-19900326	2.0	--	340	--	580	0.50	7.30	--	11,981	18,700	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--	366	--	--	300	< 0	--	950	--	--	52	--	--	--	--	3,800	--
MW-16	Multiunit 1	Downgradient	9/24/1990	MW-16-19900924	1.0	--	300	--	592	0.30	7.32	--	11,738	17,890	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	427	--	--	350	< 0	--	1,000	--	--	60	--	--	--	--	3,700	--
MW-16	Multiunit 1	Downgradient	4/2/1991	MW-16-19910402	2.0	--	320	--	677	0.30	7.23	--	11,080	17,420	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	1,000	--	--	47	--	--	--	--	3,400	--
MW-16	Multiunit 1	Downgradient	10/1/1991	MW-16-19911001	2.0	--	261	--	574.4	0.30	7.52	--	9,634	16,260	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	366	--	--	300	< 0	--	1,000	--	--	55	--	--	--	--	3,090	--
MW-16	Multiunit 1	Downgradient	5/7/1992	MW-16-19920507	2.0	--	250	--	557.2	0.30	7.39	--	9,994	16,220	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	1,100	--	--	46	--	--	--	--	3,200	--
MW-16	Multiunit 1	Downgradient	11/5/1992	MW-16-19921105	2.0	--	320	--	556	0.30	7.32	--	8,898	15,100	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	427	--	--	350	< 0	--	800	--	--	48	--	--	--	--	2,900	--
MW-16	Multiunit 1	Downgradient	4/26/1993	MW-16-19930426	2.0	--	330	--	527.8	0.20	7.33	--	9,830	14,170	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	700	--	--	56	--	--	--	--	2,800	--
MW-16	Multiunit 1	Downgradient	11/23/1993	MW-16-19931123	2.0	--	330	--	523	0.30	7.30	--	8,832	14,780	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	396.5	--	--	325	< 0	--	800	--	--	54	--	--	--	--	3,000	--
MW-16	Multiunit 1	Downgradient	4/20/1994	MW-16-19940420	2.0	--	390	--	581	0.30	7.28	--	9,260	15,320	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	900	--	--	64	--	--	--	--	2,900	--
MW-16	Multiunit 1	Downgradient	9/21/1994	MW-16-19940921	2.0	--	350	--	517	0.30	7.33	--	8,530	14,040	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	427	--	--	350	< 0	--	800	--	--	55	--	--	--	--	2,700	--
MW-16	Multiunit 1	Downgradient	4/4/1995	MW-16-19950404	1.0	--	390	--	531	0.30	7.34	--	8,186	13,220	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	800	--	--	50	--	--	--	--	2,700	--
MW-16	Multiunit 1	Downgradient	11/21/1995	MW-16-19951121	3.06	--	400	--	428.6	0.30	7.34	--	7,076	11,890	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	274.5	--	--	225	< 0	--	700	--	--	51	--	--	--	--	2,000	--
MW-16	Multiunit 1	Downgradient	8/15/1996	MW-16-19960815	2.79	--	320	--	424.4	0.20	7.31	--	7,115	11,820	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	700	--	--	44	--	--	--	--	2,300	--
MW-16	Multiunit 1	Downgradient	4/15/1997	MW-16-19970415	3.49	--	340	--	408.5	0.30	7.59	--	6,336	11,240	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	600	--	--	41	--	--	--	--	1,900	--
MW-16	Multiunit 1	Downgradient	10/8/1997	MW-16-19971008	< 0.05	--	320	--	414.3	0.20	7.42	--	6,952	10,850	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	600	--	--	43	--	--	--	--	1,900	--
MW-16	Multiunit 1	Downgradient	4/15/1998	MW-16-19980415	3.32	--	420	--	385.5	0.20	7.27	--	6,311	11,220	--	< 0.005	--	0.020	--	--	--	< 0.001	--	< 0.01	--	--	--	0.20	< 0.005	--	--	--	--	0.030	0.23	--	--	732	--	--	600	< 0	--	700	--	--	41	--	--	--	--	1,800	--
MW-16	Multiunit 1	Downgradient	5/11/1999	MW-16-19990511	3.9	--	440	--	412.6	0.30	7.38	--	6,520	11,790	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	488	--	--	400	< 0	--	700	--	--	44	--	--	--	--	1,700	--
MW-16	Multiunit 1	Downgradient	11/30/1999	MW-16-19991130	4.0	--	520	--	417.9	0.20	7.54	--	6,331	10,980	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--	457.5	--	--	375	< 0	--	700	--	--	36	--	--	--	--	2,400	--
MW-16	Multiunit 1	Downgradient	6/8/2000	MW-16-20000608	4.73	--	462	--	618.3	0.30	7.20	--	7,616	11,390	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	701.5	--	--	575	< 0	--	819	--	--	40	--	--	--	--	1,930	--
MW-16	Multiunit 1	Downgradient	12/12/2000	MW-16-20001212	4.97	--	540	--	426.7	0.2809	7.00	--	6,014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2809	--	--	--	--	--	--	--	--	--	610	--	--	500	< 0	--	700	--	--	48	--	--	--	--	2,300	--
MW-16	Multiunit 1	Downgradient	8/22/2001	MW-16-20010822	5.44	--	480	--	434	0.27	7.28	--	5,883	9,990	--	--	--	--	--	--	--	--	--	--	--	--	--	0.27	--	--	--	--	--	--	--	--	--	427	--	--	350	< 0	--	820	--	--	46	--	--	--	--	2,200	--
MW-16	Multiunit 1	Downgradient	12/3/2001	MW-16-20011203	5.7	--	620	--	386.4	0.30	7.21	--	5,470	10,240	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	518.5	--	--	425	< 0	--	600	--	--	38	--	--	--	--	2,600	--
MW-16	Multiunit 1	Downgradient	6/12/2002	MW-16-20020612	5.47	--	420	--	493.5	0.40	7.57	--	6,693	11,830	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--	610	--	--	500	< 0	--	800	--	--	42	--	--	--	--	2,000	--
MW-16	Multiunit 1	Downgradient	12/18/2002	MW-16-20021218	64.2	--	440	--	429.8	0.20	7.52	--	5,924	10,780	--	0.0070	--	< 0.01	--	--	--	0.0020	--	< 0.01	--	--	--	0.20	< 0.005	--	--	--	--	< 0.01	0.036	--	--	457.5	--	--	375	< 0	--	600	--	--	43	--	--	--	--	1,600	--
MW-16	Multiunit 1	Downgradient	5/29/2003	MW-16-20030529	6.55	--	480	--	536.6	0.70	7.21	--	6,005	11,460	--	--	--	--	--	--	--	--	--	--	--	--	--	0.70	--	--	--	--	--	--	--	--	--	579.5	--	--	475	< 0	--	700	--	--	46	--	--	--	--	240	--
MW-16	Multiunit 1	Downgradient	12/24/2003	MW-16-20031224	6.59	--	330	--	415	0.34	7.22	--	5,816	10,330	--	--	--	--	--	--	--	--	--	--	--	--	--	0.34	--	--	--	--	--	--	--	--	--	1,464	--	--	1,200	< 0	--	700	--	--	44	--	--	--	--	1,300	--
MW-16	Multiunit 1	Downgradient	6/16/2004	MW-16-20040616	--	--	440	--	429.3	0.30	7.17	--	6,128	10,350	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--	3,142	--	--	2,575	< 0	--	700	--	--	43	--	--	--	--	1,800	--

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

Appendix III Constituents

				Constituent:	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
				Filtered:	N	Y	N	Y	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*3.95*	*454.1*	*454.1*	*604.7*	*2.1*	*6.52-7.88*	*6.52-7.88*	*22,000*	*34,397*
				Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--
MW-16	Multiunit 1	Downgradient	11/29/2004	MW-16-20041129	8.8	--	420	--	411.9	0.40	7.23	--	3,752	10,080
MW-16	Multiunit 1	Downgradient	6/13/2005	MW-16-20050613	7.41	--	470	--	371.6	0.30	7.25	--	5,373	9,900
MW-16	Multiunit 1	Downgradient	10/31/2005	MW-16-20051031	--	--	--	--	351.2	0.20	7.10	--	5,078	9,410
MW-16	Multiunit 1	Downgradient	5/16/2006	MW-16-20060516	10.3	--	460	--	322	0.267	7.18	--	5,440	9,200
MW-16	Multiunit 1	Downgradient	10/11/2006	MW-16-20061011	9.63	--	463	--	327	0.287	7.18	--	6,010	9,160
MW-16	Multiunit 1	Downgradient	4/18/2007	MW-16-20070418	9.69	--	460	--	380	0.59	7.22	--	5,860	9,040
MW-16	Multiunit 1	Downgradient	11/14/2007	MW-16-20071114	8.78	--	391	--	374	0.20	7.22	--	5,700	9,040
MW-16	Multiunit 1	Downgradient	5/7/2008	MW-16-20080507	9.7	--	400	--	330	0.30	7.27	--	6,020	8,780
MW-16	Multiunit 1	Downgradient	12/4/2009	MW-16-20091204	10.7	--	408	--	360	0.30	7.21	--	4,900	8,250
MW-16	Multiunit 1	Downgradient	9/27/2012	MW-16-092712-01	9.5	--	400	--	450	< 2.0	--	--	5,400	8,900
MW-16	Multiunit 1	Downgradient	11/19/2013	FC-16-111913	7.3	--	490	--	680	< 4.0	--	--	6,200	11,000
MW-16	Multiunit 1	Downgradient	3/12/2014	FC-16-031214	7.6	--	460	--	690	< 0.80	--	--	6,500	11,000
MW-16	Multiunit 1	Downgradient	9/9/2014	FCPP-16-090914	7.7	--	440	--	670	< 0.40	--	--	6,300	10,000
MW-16	Multiunit 1	Downgradient	3/17/2015	FCPP-16-031715	8.8	--	460	--	820	< 0.40	--	--	6,300	10,000
MW-16	Multiunit 1	Downgradient	6/29/2015	MW-16	8.7	--	430	--	940	< 0.80	--	7.21	6,200	12,000
MW-16	Multiunit 1	Downgradient	8/26/2015	FCPP-16-082615	8.3	--	440	--	890	2.7	--	7.17	7,700	12,000
MW-16	Multiunit 1	Downgradient	11/10/2015	FC MW-16-(111115)	8.1	--	530	--	1,000	< 4.0	--	7.24	9,000	17,000
MW-16	Multiunit 1	Downgradient	6/18/2016	FC-Seep-MW16-616	8.0	--	470	--	1,200	< 0.40	--	7.35	8,500	15,000
MW-16	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW16-916	7.5	--	420	--	1,300	< 0.40	--	7.1	12,000	16,000
MW-16	Multiunit 1	Downgradient	3/20/2019	FC-CCR-MW16-032019	--	--	--	--	--	< 0.80	--	--	--	--
MW-16	Multiunit 1	Downgradient	3/20/2019	FC-CCR-MW16-032019	--	--	--	--	--	--	--	--	--	--
MW-16	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW16-51419	6.6	--	410	--	1,300	< 0.80	--	7.2 J	11,000	17,000
MW-16	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW16-51419	--	--	--	--	--	--	--	--	--	--
MW-16	Multiunit 1	Downgradient	5/14/2019	*DUP* FC-CCR-FD02-51419	6.6	--	410	--	1,000	< 0.80	--	7.2 J	10,000	17,000
MW-16	Multiunit 1	Downgradient	5/14/2019	*DUP* FC-CCR-FD02-51419	--	--	--	--	--	--	--	--	--	--
MW-16	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW16-111919	7.1	--	420	--	900	< 0.80	--	7.1 J	11,000	17,000
MW-16	Multiunit 1	Downgradient	6/23/2020	FC-CCR-MW16-0620	7.8	--	430	--	870	< 0.8	6.81	7.3 J	12,000	18,000
MW-16	Multiunit 1	Downgradient	11/6/2020	FC-CCR-MW16-1120	7.3	--	410	--	1,400	< 0.4	6.90	7.4 J	11,000	16,000
MW-16	Multiunit 1	Downgradient	4/27/2021	FC-CCR-MW16-0421	7.9	--	420	--	780	0.19 J	7.67	7.3 J	11,000	18,000
MW-16	Multiunit 1	Downgradient	11/18/2021	FC-CCR-MW16-1121	8.4	--	430	--	1,300	0.39 J	6.86	7.5 J	22,000	18,000
MW-16	Multiunit 1	Downgradient	2/8/2022	FC-CCR-MW16-0222	9.0	--	470	--	840	0.13	6.73	7.3 J	12,000	19,000
MW-16	Multiunit 1	Downgradient	5/26/2022	FC-CCR-MW16-0522	8.5	--	480	--	1,200	< 0.8	6.97	7.48 J	22,000	19,000
MW-16	Multiunit 1	Downgradient	8/13/2022	FC-CCR-MW16-0822	8.9	--	430	--	770	< 0.8	6.90	7.1 J	12,000	18,000
MW-16	Multiunit 1	Downgradient	11/16/2022	FC-CCR-MW16-1122	8.2	--	410	--	1,000	< 8	6.90	7.2 J	16,000	19,000
MW-17R	Multiunit 1	Downgradient	3/12/2014	FC-17R-031214	34	--	470	--	400	0.43	--	--	3,900	6,100
MW-17R	Multiunit 1	Downgradient	9/9/2014	FCPP-17R-090914	33	--	420	--	370	< 0.40	--	--	3,900	6,300
MW-17R	Multiunit 1	Downgradient	3/17/2015	FCPP-17R-031715	34	--	450	--	420	0.40	--	--	4,100	6,200
MW-17R	Multiunit 1	Downgradient	6/30/2015	MW-17R	34	--	430	--	410	< 0.80	--	7.41	3,600	6,300
MW-17R	Multiunit 1	Downgradient	8/25/2015	FCPP-17R-082515	33	--	460	--	420	< 0.40	--	7.32	4,100	6,500
MW-17R	Multiunit 1	Downgradient	11/4/2015	FC MW-17R-(041115)	30	--	440	--	--	--	--	7.21	--	--
MW-17R	Multiunit 1	Downgradient	11/13/2015	FC MW-17R-(131115)	36	--	430	--	400	< 2.0	--	7.37	4,000	6,500
MW-17R	Multiunit 1	Downgradient	6/18/2016	FC-Seep-MW17B-616	33	--	470	--	400	0.45	--	7.57	3,800	6,600
MW-17R	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW17R-916	36	--	430	--	370	0.49	--	7.4	4,100	6,400
MW-17R	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW17R-031919	--	--	--	--	--	< 0.40	--	--	--	--
MW-17R	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW17R-031919	--	--	--	--	--	--	--	--	--	--
MW-17R	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW17R-51419	33	--	440	--	390	< 0.80	--	7.5 J	4,000	6,200
MW-17R	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW17R-51419	--	--	--	--	--	--	--	--	--	--
MW-17R	Multiunit 1	Downgradient	5/14/2019	*DUP* FC-CCR-FD01-51419	33	--	430	--	380	< 0.80	--	7.5 J	3,900	6,300
MW-17R	Multiunit 1	Downgradient	5/14/2019	*DUP* FC-CCR-FD01-51419	--	--	--	--	--	--	--	--	--	--
MW-17R	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW17R-111919	36	--	460	--	390	< 0.80	--	7.4 J	4,100	6,200
MW-17R	Multiunit 1	Downgradient	6/22/2020	FC-CCR-MW17R-0620	36	--	440	--	380	< 0.8	7.14	7.5 J	3,900	6,100
MW-17R	Multiunit 1	Downgradient	11/7/2020	FC-CCR-MW17R-1120	36	--	440	--	400	0.4	7.24	7.5 J	4,300	5,900
MW-17R	Multiunit 1	Downgradient	4/25/2021	FC-CCR-MW17R-0421	36	--	470	--	390	0.45	8.06	7.6 J	4,000	6,200
MW-17R	Multiunit 1	Downgradient	11/16/2021	FC-CCR-MW17R-1121	39	--	470	--	490	0.62 J	7.12	7.7 J	5,700	6,300
MW-17R	Multiunit 1	Downgradient	2/9/2022	FC-CCR-MW17R-0222	37	--	480	--	450	0.48	7.22	7.5 J	4,600	6,400
MW-17R	Multiunit 1	Downgradient	2/9/2022	*DUP* FC-CCR-FD01-0222	36	--	460	--	440	0.50	7.22	7.5 J	4,500	6,300
MW-17R	Multiunit 1	Downgradient	5/25/2022	FC-CCR-MW17R-0522	34	--	440	--	400	< 0.8	7.11	7.47 J	8,500	6,500
MW-17R	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW17R-0822	35	--	450	--	430	< 0.8	7.11	7.4 J	4,000	6,400
MW-17R	Multiunit 1	Downgradient	11/15/2022	FC-CCR-MW17R-1122	37	--	480	--	430	< 2	7.19	7.4 J	4,000	6,700
MW-18	Multiunit 1	Downgradient	9/29/1987	MW-18_9/29/1987	--	0.76	--	430	480	< 0.5	7.45	7.5	9,500	15,000
MW-18	Multiunit 1	Downgradient	6/15/1988	MW-18-19880615	--	--	428	--	901	0.50	7.11	--	9,631	18,180
MW-18	Multiunit 1	Downgradient	9/21/1988	MW-18-19880921	1.0	--	377	--	703	0.50	7.18	--	9,681	18,120
MW-18	Multiunit 1	Downgradient	11/28/1988	MW-18-19881128	1.0	--	369	--	626	0.40	7.18	--	11,222	16,320
MW-18	Multiunit 1	Downgradient	2/27/1989	MW-18-19890227	1.0	--	408	--	692	0.40	7.19	--	10,056	16,895
MW-18	Multiunit 1	Downgradient	9/11/1989	MW-18-19890911	1.0	--	340	--	516	0.40	7.21	--	9,057	15,200
MW-18	Multiunit 1	Downgradient	3/26/1990	MW-18-19900326	1.0	--	380	--	667	0.30	7.20	--	9,976	16,490
MW-18	Multiunit 1	Downgradient	9/18/1990	MW-18-19900918	1.0	--	340	--	549	0.20	7.23	--	9,780	16,475
MW-18	Multiunit 1	Downgradient	5/30/1991	MW-18-19910530	1.0	--	350	--	1,147	0.30	7.10	--	13,240	20,660
MW-18	Multiunit 1	Downgradient	9/11/1991	MW-18-19910911	1.0	--	370	--	773	0.20	7.24	--	10,542	17,250
MW-18	Multiunit 1	Downgradient	5/5/1992	MW-18-19920505	1.0	--	210	--	1,772	0.20	7.32	--	17,150	27,820
MW-18	Multiunit 1	Downgradient	10/27/1992	MW-18-19921027	1.0	--	240	--	1,789	0.30	7.00	--	19,960	28,980
MW-18	Multiunit 1	Downgradient	4/26/1993	MW-18-19930426	1.0	--	290	--	1,506	0.20	7.08	--	18,415	22,480
MW-18	Multiunit 1	Downgradient	11/23/1993	MW-18-19931123	1.0	--	320	--	1,330	0.20	7.06	--	19,000	19,210
MW-18	Multiunit 1	Downgradient	4/21/1994	MW-18-19940421	1.0	--	380	--	699	0.20	7.22	--	12,560	18,170
MW-18	Multiunit 1	Downgradient	9/20/1994	MW-18-19940920	1.0	--	370	--	846	0.20	7.13	--	10,340	18,330
MW-18	Multiunit 1	Downgradient	12/14/1994	MW-18-19941214	--	--	400	--	--	--	7.32	--	--	--
MW-18	Multiunit 1	Downgradient	4/5/1995	MW-18-19950405	1.0	--	300	--	1,134	0.20	7.09	--	14,220	23,650
MW-18	Multiunit 1	Downgradient	12/13/1995	MW-18-19951213	0.74	--	350	--	921.5	0.20	7.16	--	11,850	18,500
MW-18	Multiunit 1	Downgradient	8/12/1996	MW-18-19960812	0.50	--	220	--	884.5	0.20	7.19	--	11,253	19,330
MW-18	Multiunit 1	Downgradient	4/23/1997	MW-18-19970423	0.94	--	180	--	1,586	0.20	7.14	--	13,940	25,750
MW-18	Multiunit 1	Downgradient	10/20/1997	MW-18-19971020	< 0.05	--	200	--	605.6	0.20	7.47	--	8,757	15,120
MW-18	Multiunit 1	Downgradient	4/14/1998	MW-18-19980414	--	--	400	--	547.6	0.20	7.24	--	8,297	15,840
MW-18	Multiunit 1	Downgradient	6/8/1999	MW-18-19990608	1.6	--	--	--	--	0.20	7.76	--	9,699	16,510
MW-18	Multiunit 1	Downgradient	12/8/1999	MW-18-19991208	--	--	420	--	601.8	0.20	7.29	--	8,860	15,460
MW-18	Multiunit 1	Downgradient	6/8/2000	MW-18-20000608	1.57	--	425	--	866.6	0.20	7.26	--	11,148	12,960
MW-18	Multiunit 1	Downgradient	11/28/2000	MW-18-20001128	1.67	--	450	--	441.2	0.2462	7.15	--	7,021	13,380
MW-18	Multiunit 1	Downgradient	8/21/2001	MW-18-20010821	1.29	--	460	--	490	0.23	7.11	--	5,668	25,800
MW-18	Multiunit 1	Downgradient	12/5/2001	MW-18-20011205	1.3	--	420	--	598.8	0.30	7.16	--	8,647	14,750
MW-18	Multiunit 1	Downgradient	6/12/2002	MW-18-20020612	1.29	--	360	--	435	0.40	7.42	--	6,795	11,830
MW-18	Multiunit 1	Downgradient	12/18/2002	MW-18-20021218	1.35	--	390	--	584.6	0.20	7.45	--	8,137	14,690
MW-18	Multiunit 1	Downgradient	6/3/2003	MW-18-20030603	--	--	370	--	430	0.30	7.23	--	5,332	14,490
MW-18	Multiunit 1	Downgradient	9/24/2003	MW-18-20030924	0.76	--	315	--	444	0.36	7.19	--	7,104	12,560
MW-18	Multiunit 1	Downgradient	6/16/2004	MW-18-20040616	--	--	350	--	494.2	0.30	7.22	--	7,197	12,750
MW-18	Multiunit 1	Downgradient	11/9/2004	MW-18-20041109	1.0	--	435	--	445.4	0.30	7.29	--	6,620	12,680
MW-18	Multiunit 1	Downgradient	5/12/2005	MW-18-20050512	0.787	--	420	--	594.8	0.30	7.13	--	7,685	13,980
MW-18	Multiunit 1	Downgradient	11/1/2005	MW-18-20051101	0.784	--	401	--	752	0.30	6.98	--	8,431	16,100
MW-18	Multiunit 1	Downgradient	5/15/2006	MW-18-20060515	0.792	--	418	--	595	0.213	7.17	--	8,560	14,500
MW-18	Multiunit 1	Downgradient	10/13/2006	MW-18-20061013	0.775	--	449	--	522	0.21	7.15	--	8,640	11,700
MW-18	Multiunit 1	Downgradient	4/18/2007	MW-18-20070418	0.96	--	416	--	723	0.629	7.16	--	9,600	14,600
MW-18	Multiunit 1	Downgradient	11/20/2007	MW-18-20071120	0.781	--	359	--	600	0.20	7.22	--	7,500	13,700
MW-18	Multiunit 1	Downgradient	4/30/2008	MW-18-20080430	0.80	--	379	--	550	0.20	7.26	--	8,630	12,900
MW-18	Multiunit 1	Downgradient	12/3/2009	MW-18-20091203	1.0	--	376	--	1,460	0.30	7.05	--	12,200	20,900
MW-18	Multiunit 1	Downgradient	9/27/2012	MW-18-092712-01	1.0	--	400	--	2,200	< 4.0	--	--	13,000	21,000
MW-18	Multiunit 1	Downgradient	11/19/2013	FC-18-111913	1.1	--	480	--	2,100	< 4.0	--	--	12,000	20,000
MW-18	Multiunit 1	Downgradient	3/12/2014	FC-18-031214	1.0	--	430	--	2,400	< 2.0	--	--	12,000	19,000
MW-18	Multiunit 1	Downgradient	9/10/2014	FCPP-18-091014	1.1	--	390	--	2,300	< 0.80	--	--	13,000	22,000
MW-18	Multiunit 1	Downgradient	3/18/2015	FCPP-18-031815	1.1	--	450	--	2,900	< 0.80	--	--	14,000	24,000
MW-18	Multiunit 1	Downgradient	6/30/2015	MW-18	1.1	--	400	--	2,400	< 4.0	--	7.09	12,000	22,000
MW-18	Multiunit 1	Downgradient	8/25/2015	FCPP-18-082515	1.1	--	430	--	3,300	< 2.0	--	7.01	14,000	23,000
MW-18	Multiunit 1	Downgradient	11/6/2015	FC MW-18-(061115)	1.3	--	460	--	2,700	< 4.0	--	7.02	13,000	22,000
MW-18	Multiunit 1	Downgradient	6/17/2016	FC-Seep-MW18-616	1.0	--	440	--	3,300	< 0.80	--	7.28	13,000	24,000
MW-18	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW18-916	1.3	--	430	--	660	< 0.40	--	7.2	8,800	13,000
MW-18	Multiunit 1	Downgradient	6/22/2020	FC-CCR-MW18-0620	--	--	--	--	--	--	6.65	--	--	--
MW-18	Multiunit 1	Downgradient	11/7/2020	FC-CCR-MW18-1120	1.1	--	--	--	--	--	6.74	--	--	--
MW-18	Multiunit 1	Downgradient	4/25/2021	FC-CCR-MW18-0421	1.3	--	510	--	4,800	< 0.8	7.37	7.2 J	16,000	5,900
MW-18	Multiunit 1	Downgradient	11/16/2021	FC-CCR-MW18-1121	1.2	--	510	--	5,100	< 0.8	6.65	7.6 J	16,000	28,000 J
MW-18	Multiunit 1	Downgradient	2/8/2022	FC-CCR-MW18-0222	1.3	--	520	--	9,800	0.58	6.59	7.3 J	15,000	26,000
MW-18	Multiunit 1	Downgradient	5/25/2022	FC-CCR-MW18-0522	1.2	--	470	--	9,200	< 0.8	6.67	7.38 J	37,000	25,000
MW-18	Multiunit 1	Downgradient	8/12/2022	FC-CCR-MW18-0822	1.3	--	520	--	4,600	< 0.8	6.34	7.0 J	15,000	28,000
MW-18	Multiunit 1	Downgradient	11/14/2022	FC-CCR-MW18-1122	1.2	--	490	--	4,700	< 4	6.79	7.0 J	16,000	32,000
MW-23R	Multiunit 1	Downgradient	3/11/2014	FC-23RMS-031114	1.7	--	450	--	--	--	--	--	--	--
MW-23R	Multiunit 1	Downgradient	3/11/2014	FC-23R-031114	1.7	--	440	--	470	< 0.80	--	--	7,200	5,800
MW-23R	Multiunit 1	Downgradient	9/11/2014	FCPP-23R-91114	9.0	--	1,700	--	520	< 0.40	--	--	7,900	12,000
MW-23R	Multiunit 1	Downgradient	12/8/2014	FCPP-MW23R-12914	1.9	--	--	--	--	--	--	--	--	--
MW-23R	Multiunit 1	Downgradient	3/18/2015	FCPP-23R-031815	3.5	--	450	--	530	< 0.40	--	--	7,100	12,000
MW-23R	Multiunit 1	Downgradient	6/30/2015	MW-23R	6.9	--	420	--	580	< 2.0	--	7.24	6,400	11,000
MW-23R	Multiunit 1	Downgradient	11/3/2015	FC MW-23R-(031115)	9.9	--	490	--	--	--	--	7.29	--	11,000
MW-23R	Multiunit 1	Downgradient	11/13/2015	FC MW-23R-(131115)	2.8	--	410	--	500	< 2.0	--	7.25	7,100	11,000
MW-23R	Multiunit 1	Downgradient	6/21/2016	FC-SEEPS-MW-23R-062116	14	--	450	--	590	< 0.40	--	7.23	6,100	11,000
MW-23R	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW23R-916	6.6	--	420	--	530	0.45	--	7.2	7,000	11,000
MW-23R	Multiunit 1	Downgradient	6/21/2020	FC-CCR-MW23R-0620	--	--	--	--	--	--	6.76	--	--	--
MW-23R	Multiunit 1	Downgradient	11/7/2020	FC-CCR-MW23R-1120	13	--	--	--	--	--	6.94	--	--	--
MW-23R	Multiunit 1	Downgradient	4/25/2021	FC-CCR-MW23R-0421	15	--	480	--	730	0.27 J	7.64	7.4 J	8,700	13,000
MW-23R	Multiunit 1	Downgradient	11/14/2021	FC-CCR-MW23R	14	--	470	--	900	0.28 J	6.83	7.4 J	11,000	17,000
MW-23R	Multiunit 1	Downgradient	2/9/2022	FC-CCR-MW23R-0222	14	--	490	--	830	0.30	6.88	7.4 J	10,000	15,000
MW-23R	Multiunit 1	Downgradient	5/25/2022	FC-CCR-MW23R-0522	13	--	470	--	770	< 0.8	6.70	7.44 J	9,400	15,000
MW-23R	Multiunit 1	Downgradient	8/12/2022	FC-CCR-MW23R-0822	13	--	500	--	720	< 0.8	6.40	7.1 J	9,100	14,000
MW-23R	Multiunit 1	Downgradient	11/11/2022	FC-CCR-MW23R-1122	12	--	500	--	850	< 4	6.92	7.2 J	9,400	16,000
MW-24	Multiunit 1	Downgradient	3/19/2015	FCPP-24-031915	1.1	--	400	--	4,100	< 0.80	--	--	10,000	21,000
MW-24	Multiunit 1	Downgradient	6/29/2015	MW-24	1.1	--	350	--	3,700	< 4.0	--	7.92	10,000	20,000
MW-24	Multiunit 1	Downgradient	8/26/2015	FCPP-24-082615	0.99	--	410	--	5,100	< 4.0	--	7.62	12,000	23,000
MW-24	Multiunit 1	Downgradient	6/20/2016	FC-Seep-MW24-616	1.0	--	490	--	4,500	< 0.80	--	7.38	11,000	23,000
MW-24	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW24-916	0.96	--	420	--	4,200	< 2.0	--	7.3	11,000	23,000
MW-24	Multiunit 1	Downgradient	4/26/2021	FC-CCR-MW24-0421	1.0	--	510	--	5,600	0.66 J	8.07	7.6 J	14,000	23,000
MW-24	Multiunit 1	Downgradient	11/16/2021	FC-CCR-MW24-1121	1.0	--	490	--	5,200	0.21 J	7.18	7.7 J	13,000	23,000 J
MW-24	Multiunit 1	Downgradient	2/8/2022	FC-CCR-MW24-0222	1.0	--	510	--	4,800	0.23	7.11	7.6 J	12,000	24,000
MW-24	Multiunit 1	Downgradient	5/25/2022	FC-CCR-MW24-0522	0.94	--	460	--	5,000	< 0.8	7.21	7.68 J	12,000	19,000
MW-24	Multiunit 1	Downgradient	8/12/2022	FC-CCR-MW24-0822	1.0	--	510	--	4,600	< 0.8	7.12	7.4 J	11,000	22,000
MW-24	Multiunit 1	Downgradient	11/14/2022	FC-CCR-MW24-1122	0.98	--	490	--	4,800	< 2	7.29	7.4 J	12,000	23,000
MW-34	Multiunit 1/EW	Downgradient	6/23/2020	FC-CCR-MW34-0620	11	--	410	--	350	< 0.8	--	7.7 J	5,000	7,700
MW-36R	Multiunit 1	Downgradient	3/12/2014	FC-36R-031214	35	--	490	--	560	< 0.80	--	--	4,100	6,900
MW-36R	Multiunit 1	Downgradient	9/9/2014	FCPP-36R-090914	32	--	450	--	560	< 0.40	--	--	4,200	7,100
MW-36R	Multiunit 1	Downgradient	3/19/2015	FCPP-36R-031915	27	--	460	--	620	< 0.40	--	--	5,200	8,400
MW-36R	Multiunit 1	Downgradient	6/30/2015	MW-36R	37	--	440	--	620	< 0.80	--	7.24	4,100	7,600
MW-36R	Multiunit 1	Downgradient	8/25/2015	FCPP-36R-082515	21	--	440	--	650	< 0.80	--	7.16	5,500	8,900
MW-36R	Multiunit 1	Downgradient	11/3/2015	FC MW-36R-(031115)	28	--	480	--	--	--	--	7.14	--	8,400
MW-36R	Multiunit 1	Downgradient	11/13/2015	FC MW-36R-(131115)	23	--	390	--	610	< 2.0	--	7.21	4,700	8,300
MW-36R	Multiunit 1	Downgradient	6/17/2016	FC-Seep-MW36R-616	28	--	460	--	640	< 0.40	--	7.32	4,800	7,900
MW-36R	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW36R-916	50	--	430	--	540	< 0.40	--	7.3	4,100	6,600
MW-36R	Multiunit 1	Downgradient	6/21/2020	FC-CCR-MW36R-0620	--	--	--	--	--	--	b	--	--	--
MW-36R	Multiunit 1	Downgradient	11/7/2020	FC-CCR-MW36R-1120	53	--	--	--	--	--	7.21	--	--	--
MW-36R	Multiunit 1	Downgradient	11/7/2020	*DUP* FC-CCR-FD04-1120	55	--	--	--	--	--	--	--	--	--

Appendix IV Constituents

Well	Date	Constituent:	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Mercury	Molybdenum	Selenium	Thallium	Total Radium
		Filtered:	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	Y	N	N	Y	N	N	N	N
		Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
		Multiunit 1 BTV	*0.01*	*0.0086*	*0.009*	*0.042*	*0.042*	*0.001*	*0.001*	*0.002*	*0.002*	*0.02*	*0.02*	*0.01*	*0.01*	*5*	*0.01*	*0.01*	*1.8*	*0.0002*	*0.0002*	*0.12*	*0.092*	*0.017*	*4.43*
		Multiunit 1 GWPS	*0.01*	*0.01*	*0.01*	*2*	*2*	*0.004*	*0.004*	*0.005*	*0.005*	*0.1*	*0.1*	*0.01*	*0.01*	*5*	*0.015*	*0.015*	*1.8*	*0.002*	*0.002*	*0.1*	*0.092*	*0.017*	*5*
MW-16	11/29/2004	MW-16-20041129	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-16	6/13/2005	MW-16-20050613	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-16	10/31/2005	MW-16-20051031	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-16	5/16/2006	MW-16-20060516	--	--	--	--	--	--	--	--	--	--	--	--	--	0.267	--	--	--	--	--	--	--	--	--
MW-16	10/11/2006	MW-16-20061011	--	< 0.024	--	0.017	--	--	--	< 0.002	--	< 0.002	--	--	--	0.287	< 0.009	--	--	--	--	< 0.012	< 0.029	--	--
MW-16	4/18/2007	MW-16-20070418	--	--	--	--	--	--	--	--	--	--	--	--	--	0.59	--	--	--	--	--	--	--	--	--
MW-16	11/14/2007	MW-16-20071114	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-16	5/7/2008	MW-16-20080507	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-16	12/4/2009	MW-16-20091204	--	0.0037	--	0.0164	--	--	--	< 0.00025	--	0.020	--	--	--	0.30	< 0.0005	--	--	< 0.0002	--	< 0.0025	0.016	--	--
MW-16	9/27/2012	MW-16-092712-01	--	< 0.0010	--	--	--	--	--	--	--	< 0.0010	--	--	--	< 2.0	--	--	--	--	--	--	0.0016	--	--
MW-16	11/19/2013	FC-16-111913	--	0.00031	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 4.0	--	--	--	--	--	--	0.0050	--	--
MW-16	3/12/2014	FC-16-031214	--	0.00077	--	--	--	--	--	--	--	0.0018	--	--	--	< 0.80	--	--	--	--	--	--	0.0030	--	--
MW-16	9/9/2014	FCPP-16-090914	--	0.00065	--	--	--	--	--	--	--	0.00083	--	--	--	< 0.40	--	--	--	--	--	--	0.0021	--	--
MW-16	3/17/2015	FCPP-16-031715	--	0.00027	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	0.014	--	--
MW-16	6/29/2015	MW-16	--	< 0.0030	--	--	--	--	--	--	--	< 0.0030	--	--	--	< 0.80	--	--	--	--	--	--	0.034	--	--
MW-16	8/26/2015	FCPP-16-082615	--	< 0.0060	--	--	--	--	--	--	--	< 0.0060	--	--	--	2.7	--	--	--	--	--	--	0.038	--	--
MW-16	11/10/2015	FC MW-16-(111115)	--	0.0039	--	--	--	--	--	< 0.00050	--	0.014	--	--	--	< 4.0	--	--	--	--	--	--	0.049	--	--
MW-16	6/18/2016	FC-Seep-MW16-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-16	9/15/2016	FC-Seep-MW16-916	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-16	3/20/2019	FC-CCR-MW16-032019	< 0.0010	0.0018	--	0.021	--	< 0.0010	--	0.00015	--	< 0.0010	--	0.0062	--	< 0.80	< 0.00050	--	1.2	< 0.00020	--	0.0033	0.045	0.00041	--
MW-16	3/20/2019	FC-CCR-MW16-032019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.9
MW-16	5/14/2019	FC-CCR-MW16-51419	--	0.0017	--	0.021	--	--	--	0.00013	--	--	--	0.0054	--	< 0.80	< 0.00050	--	1.3	--	--	0.0018	0.050	0.00040	--
MW-16	5/14/2019	FC-CCR-MW16-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9
MW-16	5/14/2019	*DUP* FC-CCR-FD02-51419	--	0.0012	--	0.021	--	--	--	0.00015	--	--	--	0.0052	--	< 0.80	< 0.00050	--	1.3	--	--	0.0018	0.048	0.00041	--
MW-16	5/14/2019	*DUP* FC-CCR-FD02-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7
MW-16	11/19/2019	FC-CCR-MW16-111919	< 0.0010	0.0011	--	0.020	--	< 0.0010	--	0.00015	--	< 0.0010	--	0.0072	--	< 0.80	< 0.00050	--	1.2	< 0.00020	--	0.0007	0.032	0.00041	--
MW-16	6/23/2020	FC-CCR-MW16-0620	< 0.002	0.0026	--	0.019	--	--	--	< 0.0002	--	< 0.002	--	0.0068	--	< 0.8	< 0.001	--	1.8	--	--	< 0.001	0.037	0.00051	3.1
MW-16	11/6/2020	FC-CCR-MW16-1120	0.00022	< 0.002	--	0.023	--	< 0.001	--	0.00018	--	0.0016	--	0.0058	--	< 0.4	< 0.002	--	1.3	--	--	< 0.002	0.034	0.00054	3.6
MW-16	4/27/2021	FC-CCR-MW16-0421	< 0.004	< 0.002	--	0.022	--	< 0.001	--	0.0002 J	--	< 0.004	--	0.0071	--	0.19 J	0.0021	--	1.3	--	--	0.00088 J	0.033	0.00051	2.0
MW-16	11/18/2021	FC-CCR-MW16-1121	< 0.002 U	0.00085 J	--	0.021	--	< 0.001	--	0.00018 J	--	< 0.002	--	0.0074	--	0.39 J	< 0.0005	--	1.4	--	--	0.00079 J	0.0041	0.00045	2.5
MW-16	2/8/2022	FC-CCR-MW16-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0062	--	0.13	--	--	1.4	--	--	0.0006	--	--	--
MW-16	5/26/2022	FC-CCR-MW16-0522	< 0.002	< 0.001	--	0.019	--	< 0.001	--	< 0.0002	--	< 0.002	--	0.0067	--	< 0.8	< 0.002	--	1.2	--	--	< 0.001	0.032	0.00041	3.4 J
MW-16	8/13/2022	FC-CCR-MW16-0822	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0062	--	< 0.8	--	--	1.4	--	--	0.0006	--	--	--
MW-16	11/16/2022	FC-CCR-MW16-1122	< 0.002	< 0.001	--	0.022	--	< 0.001	--	< 0.0002	--	< 0.002	--	0.0069	--	< 8	< 0.001	--	1.4	--	--	< 0.001	0.031	0.00048	5.1
MW-17R	3/12/2014	FC-17R-031214	--	0.00027	--	--	--	--	--	--	--	0.00071	--	--	--	0.43	--	--	--	--	--	--	0.00067	--	--
MW-17R	9/9/2014	FCPP-17R-090914	--	0.00027	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	< 0.00060	--	--
MW-17R	3/17/2015	FCPP-17R-031715	--	0.00029	--	--	--	--	--	--	--	< 0.00050	--	--	--	0.40	--	--	--	--	--	--	< 0.00060	--	--
MW-17R	6/30/2015	MW-17R	--	< 0.0030	--	--	--	--	--	--	--	< 0.0030	--	--	--	< 0.80	--	--	--	--	--	--	0.0038	--	--
MW-17R	8/25/2015	FCPP-17R-082515	--	< 0.0060	--	--	--	--	--	--	--	< 0.0060	--	--	--	< 0.40	--	--	--	--	--	--	< 0.0060	--	--
MW-17R	11/4/2015	FC MW-17R-(041115)	--	0.0057	--	--	--	--	--	< 0.0025	--	< 0.013	--	--	--	--	--	--	--	--	--	--	< 0.015	--	--
MW-17R	11/13/2015	FC MW-17R-(131115)	--	0.00051	--	--	--	--	--	--	--	< 0.0010	--	--	--	< 2.0	--	--	--	--	--	--	< 0.0012	--	--
MW-17R	6/18/2016	FC-Seep-MW17B-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	0.45	--	--	--	< 0.00020	--	--	--	--	--
MW-17R	9/15/2016	FC-Seep-MW17R-916	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	0.49	--	--	--	< 0.00020	--	--	--	--	--
MW-17R	3/19/2019	FC-CCR-MW17R-031919	< 0.0010	< 0.00050	--	0.017	--	< 0.0010	--	0.0013	--	0.0017	--	0.065	--	< 0.40	0.0027	--	0.41	< 0.00020	--	0.0014	0.00055	0.00021	--
MW-17R	3/19/2019	FC-CCR-MW17R-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.4
MW-17R	5/14/2019	FC-CCR-MW17R-51419	--	< 0.00050	--	0.017	--	--	--	0.0013	--	--	--	0.064	--	< 0.80	0.0022	--	0.42	--	--	0.0014	< 0.00050	0.00022	--
MW-17R	5/14/2019	FC-CCR-MW17R-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7
MW-17R	5/14/2019	*DUP* FC-CCR-FD01-51419	--	< 0.00050	--	0.018	--	--	--	0.0014	--	--	--	0.064	--	< 0.80	0.0022	--	0.41	--	--	0.0013	< 0.00050	0.00022	--
MW-17R	5/14/2019	*DUP* FC-CCR-FD01-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2
MW-17R	11/19/2019	FC-CCR-MW17R-111919	< 0.0010	< 0.0010	--	0.019	--	< 0.0010	--	0.0015	--	< 0.0010	--	0.071	--	< 0.80	0.0024	--	0.42	< 0.00020	--	0.0014	0.00055	0.00026	--
MW-17R	6/22/2020	FC-CCR-MW17R-0620	< 0.002	< 0.001	--	0.016	--	--	--	0.0014	--	< 0.002	--	0.062	--	< 0.8	0.0025	--	0.55	--	--	0.0069	< 0.001	0.00036	1.9
MW-17R	11/7/2020	FC-CCR-MW17R-1120	< 0.004	0.002	--	0.017	--	< 0.001	--	0.0011	--	0.0029	--	0.072	--	0.40	0.0019	--	0.47	--	--	0.034	0.0025	0.00029	2.0
MW-17R	4/25/2021	FC-CCR-MW17R-0421	< 0.004 U	< 0.002	--	0.019	--	< 0.001	--	0.0017	--	< 0.004	--	0.066	--	0.45	0.0043	--	0.42	--	--	0.0014 J	0.0012 J	< 0.0004 U	2.2
MW-17R	11/16/2021	FC-CCR-MW17R-1121	< 0.002 U	0.00051 J	--	0.019	--	< 0.001	--	0.0016	--	< 0.002	--	0.072	--	0.62 J	0.0025	--	0.47	--	--	0.0013	0.026	0.00026	3.2
MW-17R	2/9/2022	FC-CCR-MW17R-0222	--	--	--	--	--	< 0.001 U	--	--	--	--	--	0.061	--	0.48	--	--	0.47	--	--	0.0012	--	--	--
MW-17R	2/9/2022	*DUP* FC-CCR-FD01-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.061	--	0.50	--	--	0.47	--	--	0.0011	--	--	--
MW-17R	5/25/2022	FC-CCR-MW17R-0522	< 0.002	< 0.001	--	0.016	--	< 0.001	--	0.0014	--	< 0.002	--	0.057	--	< 0.8	0.0014	--	0.42	--	--	0.0011	< 0.001	< 0.0002	2.0
MW-17R	8/11/2022	FC-CCR-MW17R-0822	--	--	--	--	--	< 0.001	--	--	--	--	--	0.063	--	< 0.8	--	--	0.45	--	--	0.001	--	--	--
MW-17R	11/15/2022	FC-CCR-MW17R-1122	< 0.001	< 0.0005	--	0.018	--	< 0.001	--	0.0014	--	< 0.001	--	0.065	--	< 2	0.0026	--	0.47	--	--	0.0013	0.0012	0.00031	2.4
MW-18	9/29/1987	MW-18_9/29/1987	--	--	< 0.05	--	0.23	--	--	--	< 0.005	--	< 0.005	--	--	< 0.5	--	0.070	--	--	< 0.0001	--	--	--	--
MW-18	6/15/1988	MW-18-19880615	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	< 0.001	--	--	--	--	--
MW-18	9/21/1988	MW-18-19880921	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	--	--	--	--	--	--	--
MW-18	11/28/1988	MW-18-19881128	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-18	2/27/1989	MW-18-19890227	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-18	9/11/1989	MW-18-19890911	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-18	3/26/1990	MW-18-19900326	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-18	9/18/1990	MW-18-19900918	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	5/30/1991	MW-18-19910530	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-18	9/11/1991	MW-18-19910911	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	5/5/1992	MW-18-19920505	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	10/27/1992	MW-18-19921027	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-18	4/26/1993	MW-18-19930426	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	11/23/1993	MW-18-19931123	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	4/21/1994	MW-18-19940421	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	9/20/1994	MW-18-19940920	--	< 0.05	--	< 0.5	--	--	--	< 0.005	--	--	--	< 0.02	--	0.20	< 0.1	--	--	--	--	< 0.01	< 0.1	< 0.01	--
MW-18	12/14/1994	MW-18-19941214	< 0.3	< 0.05	--	< 1	--	< 0.025	--	< 0.025	--	< 0.05	--	< 0.25	--	--	< 0.015	--	--	< 0.0002	--	--	< 0.025	< 0.05	--
MW-18	4/5/1995	MW-18-19950405	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	12/13/1995	MW-18-19951213	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	8/12/1996	MW-18-19960812	--	< 0.005	--	0.010	--	--	--	< 0.001	--	--	--	0.050	--	0.20	< 0.005	--	--	--	--	< 0.01	0.090	< 0.01	--
MW-18	4/23/1997	MW-18-19970423	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	10/20/1997	MW-18-19971020	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	4/14/1998	MW-18-19980414	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	6/8/1999	MW-18-19990608	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	12/8/1999	MW-18-19991208	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	6/8/2000	MW-18-20000608	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	11/28/2000	MW-18-20001128	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2462	--	--	--	--	--	--	--	--	--
MW-18	8/21/2001	MW-18-20010821	--	--	--	--	--	--	--	--	--	--	--	--	--	0.23	--	--	--	--	--	--	--	--	--
MW-18	12/5/2001	MW-18-20011205	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-18	6/12/2002	MW-18-20020612	--	--	--	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	--	--	--	--
MW-18	12/18/2002	MW-18-20021218	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	--	--
MW-18	6/3/2003	MW-18-20030603	--	--	--	--	--	0.010	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	0.071	--	--
MW-18	9/24/2003	MW-18-20030924	--	--	--	--	--	--	--	--	--	--	--	--	--	0.36	--	--	--	--	--	--	--	--	--
MW-18	6/16/2004	MW-18-20040616	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	--	--	--	--	--	--	--	--
MW-18	11/9/2004	MW-18-20041109	--	< 0.0005	--	0.0124	--	--	--	< 0.00005	--	--	--	0.0060	--	0.30	0.00050	--	--	--	--	0.0012	0.021	< 0.00005	--
MW-18	5/12/2005	MW-18-20050512	--	0.0033	--	0.0115	--	< 0.0005	--	< 0.001	--	0.00188	--	0.0020	--	0.30	< 0.0001	--	--	< 0.0002	--	--	0.049	0.00014	--
MW-18	11/1/2005	MW-18-20051101	--	0.010	--	0.017	--	--	--	--	--	0.0030	--	--	--	0.30	--	--	--	--	--	--	0.032	--	--
MW-18	5/15/2006	MW-18-20060515	--	0.037	--	0.011	--	< 0.001	--	< 0.006	--	< 0.003	--	< 0.004	--	0.213	< 0.12	--	--	--	--	< 0.006	< 0.038	0.023	--
MW-18	10/13/2006	MW-18-20061013	--	< 0.024	--	0.028	--	< 0.003	--	< 0.002	--	< 0.008	--	< 0.002	--	0.21	< 0.009	--	--	--	--	< 0.012	< 0.029	< 0.025	--
MW-18	4/18/2007	MW-18-20070418	< 0.028	< 0.024	--	0.017	--	< 0.003	--	< 0.002	--	< 0.002	--	< 0.008	--	0.629	< 0.009	--	--	< 0.0022	--	< 0.12	0.051	< 0.025	--
MW-18	11/20/2007	MW-18-20071120	0.0010	0.0038	--	0.0127	--	< 0.005	--	< 0.0005	--	0.014	--	0.00138	--	0.20	< 0.001	--	--	--	--	0.0012	0.042	< 0.00005	--
MW-18	4/30/2008	MW-18-20080430	< 0.0005	0.0035	--	0.0117	--	< 0.0005	--	< 0.00005	--	0.0012	--	0.00247	--	0.20	0.00080	--	--	--	--	< 0.0005	0.027	< 0.00005	--
MW-18	12/3/2009	MW-18-20091203	< 0.0005	0.0051	--	0.0106	--	< 0.0005	--	0.00013	--	0.015	--	0.00247	--	0.30	< 0.0001	--	--	< 0.0002	--	0.0012	0.057	0.00012	--
MW-18	9/27/2012	MW-18-092712-01	--	< 0.0010	--	--	--	--	--	--	--	< 0.0010	--	--	--	< 4.0	--	--	--	--	--	--	0.0033	--	--
MW-18	11/19/2013	FC-18-111913	--	0.00057	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 4.0	--	--	--	--	--	--	0.0018	--	--
MW-18	3/12/2014	FC-18-031214	--	0.00058	--	--	--	--	--	--	--	0.00059	--	--	--	< 2.0	--	--	--	--	--	--	0.0020	--	--
MW-18	9/10/2014	FCPP-18-091014	--	< 0.00040	--	--	--	--	--	--	--	< 0.0010	--	--	--	< 0.80	--	--	--	--	--	--	< 0.0012	--	--
MW-18	3/18/2015	FCPP-18-031815	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.80	--	--	--	--	--	--	< 0.0030	--	--
MW-18	6/30/2015	MW-18	--	< 0.012	--	--	--	--	--	--	--	< 0.012	--	--	--	< 4.0	--	--	--	--	--	--	< 0.012	--	--
MW-18	8/25/2015	FCPP-18-082515	--	< 0.030	--	--	--	--	--	--	--	< 0.030	--	--	--	< 2.0	--	--	--	--	--	--	< 0.030	--	--
MW-18	11/6/2015	FC MW-18-(061115)	--	< 0.0010	--	--	--	--	--	< 0.00050	--	< 0.0025	--	--	--	< 4.0	--	--	--	--	--	--	< 0.0030	--	--
MW-18	6/17/2016	FC-Seep-MW18-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.80	--	--	--	< 0.00020	--	--	--	--	--
MW-18	9/15/2016	FC-Seep-MW18-916	--	0.0015	--	--	--	--	--	--	--	0.0038	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-18	6/22/2020	FC-CCR-MW18-0620	--	--	--	--	--	--	--	--	--	--	--	0.011	--	--	--	--	--	--	--	0.0022	--	--	--
MW-18	11/7/2020	FC-CCR-MW18-1120	--	--	--	--	--	--	--	--	--	--	--	0.076	--	--	--	--	--	--	--	0.0024	--	--	--
MW-18	4/25/2021	FC-CCR-MW18-0421	--	--	--	--	--	< 0.001	--	--	--	--	--	0.012	--	< 0.8	--	--	2.2	--	--	0.0023	--	--	--
MW-18	11/16/2021	FC-CCR-MW18-1121	--	--	--	--	--	< 0.001	--	--	--	--	--	0.012	--	< 0.8	--	--	2.4	--	--	0.0017	--	--	--
MW-18	2/8/2022	FC-CCR-MW18-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.010	--	0.58	--	--	2.3	--	--	0.0014	--	--	--
MW-18	5/25/2022	FC-CCR-MW18-0522	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0098	--	< 0.8	--	--	2.3	--	--	0.0017	--	--	--
MW-18	8/12/2022	FC-CCR-MW18-0822	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0094	--	< 0.8	--	--	2.3	--	--	0.0016	--	--	--
MW-18	11/14/2022	FC-CCR-MW18-1122	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0095	--	< 4	--	--	2.4	--	--	0.0015	--	--	--
MW-23R	3/11/2014	FC-23RMS-031114	--	0.00065	--	--	--	--	--	--	--	0.0038	--	--	--	--	--	--	--	--	--	--	0.0017	--	--
MW-23R	3/11/2014	FC-23R-031114	--	0.00079	--	--	--	--	--	--	--	0.0035	--	--	--	< 0.80	--	--	--	--	--	--	0.0015	--	--
MW-23R	9/11/2014	FCPP-23R-91114	--	< 0.0040	--	--	--	--	--	--	--	0.015	--	--	--	< 0.40	--	--	--	--	--	--	< 0.012	--	--
MW-23R	12/8/2014	FCPP-MW23R-12914	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23R	3/18/2015	FCPP-23R-031815	--	< 0.0050	--	--	--	--	--	--	--	< 0.013	--	--	--	< 0.40	--	--	--	--	--	--	< 0.015	--	--
MW-23R	6/30/2015	MW-23R	--	< 0.012	--	--	--	--	--	--	--	< 0.012	--	--	--	< 2.0	--	--	--	--	--	--	< 0.012	--	--
MW-23R	11/3/2015	FC MW-23R-(031115)	--	< 0.0010	--	--	--	--	--	< 0.00050	--	< 0.0025	--	--	--	--	--	--	--	--	--	--	< 0.0030	--	--
MW-23R	11/13/2015	FC MW-23R-(131115)	--	0.0020	--	--	--	--	--	--	--	0.0047	--	--	--	< 2.0	--	--	--	--	--	--	< 0.0012	--	--
MW-23R	6/21/2016	FC-SEEPS-MW-23R-062116	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-23R	9/15/2016	FC-Seep-MW23R-916	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	0.45	--	--	--	< 0.00020	--	--	--	--	--
MW-23R	6/21/2020	FC-CCR-MW23R-0620	--	--	--	--	--	--	--	--	--	--	--	< 0.001	--	--	--	--	--	--	--	0.019	--	--	--
MW-23R	11/7/2020	FC-CCR-MW23R-1120	--	--	--	--	--	--	--	--	--	--	--	0.00068	--	--	--	--	--	--	--	0.0075	--	--	--
MW-23R	4/25/2021	FC-CCR-MW23R-0421	--	--	--	--	--	< 0.001	--	--	--	--	--	0.00092 J	--	0.27 J	--	--	0.91	--	--	0.0052	--	--	--
MW-23R	11/14/2021	FC-CCR-MW23R	--	--	--	--	--	< 0.001	--	--	--	--	--	0.00068	--	0.28 J	--	--	1.1	--	--	0.0035	--	--	--
MW-23R	2/9/2022	FC-CCR-MW23R-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0012	--	0.30	--	--	1.0	--	--	0.0039	--	--	--
MW-23R	5/25/2022	FC-CCR-MW23R-0522	--	--	--	--	--	< 0.001	--	--	--	--	--	< 0.001	--	< 0.8	--	--	1.0	--	--	0.0036	--	--	--
MW-23R	8/12/2022	FC-CCR-MW23R-0822	--	--	--	--	--	< 0.001	--	--	--	--	--	0.00056	--	< 0.8	--	--	1.1	--	--	0.003	--	--	--
MW-23R	11/11/2022	FC-CCR-MW23R-1122	--	--	--	--	--	< 0.001	--	--	--	--	--	0.00059	--	< 4	--	--	1.1	--	--	0.0033	--	--	--
MW-24	3/19/2015	FCPP-24-031915	--	0.0011	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.80	--	--	--	--	--	--	< 0.0030	--	--
MW-24	6/29/2015	MW-24	--	0.0036	--	--	--	--	--	--	--	< 0.0030	--	--	--	< 4.0	--	--	--	--	--	--	0.013	--	--
MW-24	8/26/2015	FCPP-24-082615	--	< 0.0060	--	--	--	--	--	--	--	< 0.0060	--	--	--	< 4.0	--	--	--	--	--	--	0.0095	--	--
MW-24	6/20/2016	FC-Seep-MW24-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.80	--	--	--	< 0.00020	--	--	--	--	--
MW-24	9/15/2016	FC-Seep-MW24-916	--	0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 2.0	--	--	--	< 0.00020	--	--	--	--	--
MW-24	4/26/2021	FC-CCR-MW24-0421	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0021	--	0.66 J	--	--	1.5	--	--	0.15	--	--	--
MW-24	11/16/2021	FC-CCR-MW24-1121	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0042	--	0.21 J	--	--	1.5	--	--	0.034	--	--	--
MW-24	2/8/2022	FC-CCR-MW24-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0026	--	0.23	--	--	1.5	--	--	0.029	--	--	--
MW-24	5/25/2022	FC-CCR-MW24-0522	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0023	--	< 0.8	--	--	1.5	--	--	0.028	--	--	--
MW-24	8/12/2022	FC-CCR-MW24-0822	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0029	--	< 0.8	--	--	1.5	--	--	0.026	--	--	--
MW-24	11/14/2022	FC-CCR-MW24-1122	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0035	--	< 2	--	--	1.5	--	--	0.030	--	--	--
MW-34	6/23/2020	FC-CCR-MW34-0620	< 0.001	0.00065	--	0.018	--	--	--	0.00029	--	0.0022	--	0.029	--	< 0.8	< 0.0005	--	--	--	--	0.0084	0.00086	0.00022	0.6
MW-36R	3/12/2014	FC-36R-031214	--	0.00031	--	--	--	--	--	--	--	0.00060	--	--	--	< 0.80	--	--	--	--	--	--	0.00074	--	--
MW-36R	9/9/2014	FCPP-36R-090914	--	0.00022	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	0.00069	--	--
MW-36R	3/19/2015	FCPP-36R-031915	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	--	--	--	< 0.0030	--	--
MW-36R	6/30/2015	MW-36R	--	< 0.0030	--	--	--	--	--	--	--	< 0.0030	--	--	--	< 0.80	--	--	--	--	--	--	0.0047	--	--
MW-36R	8/25/2015	FCPP-36R-082515	--	< 0.0030	--	--	--	--	--	--	--	< 0.0030	--	--	--	< 0.80	--	--	--	--	--	--	0.0082	--	--
MW-36R	11/3/2015	FC MW-36R-(031115)	--	< 0.0010	--	--	--	--	--	0.0031	--	< 0.0025	--	--	--	--	--	--	--	--	--	--	< 0.0030	--	--
MW-36R	11/13/2015	FC MW-36R-(131115)	--	< 0.00040	--	--	--	--	--	--	--	< 0.0010	--	--	--	< 2.0	--	--	--	--	--	--	< 0.0012	--	--
MW-36R	6/17/2016	FC-Seep-MW36R-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-36R	9/15/2016	FC-Seep-MW36R-916	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-36R	6/21/2020	FC-CCR-MW36R-0620	--	--	--	--	--	--	--	--	--	--	--	0.26	--	--	--	--	--	--	--	0.0013	--	--	--
MW-36R	11/7/2020	FC-CCR-MW36R-1120	--	--	--	--	--	--	--	--	--	--	--	0.26	--	--	--	--	--	--	--	0.0010	--	--	--
MW-36R	11/7/2020	*DUP* FC-CCR-FD04-1120	--	--	--	--	--	--	--	--	--	--	--	0.29	--	--	--	--	--	--	--	0.0018	--	--	--

Additional Analyses

Well	Date	Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Iron	Magnesium	Magnesium	Manganese	Potassium	Potassium	Radium 226	Radium 228	Selenium	Sodium	Sodium
		Filtered:	N	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	Y
		Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
		Multiunit 1 BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-16	11/29/2004	MW-16-20041129	3,233	--	--	2,650	< 0	--	650	--	--	50	--	--	--	--	1,600	--
MW-16	6/13/2005	MW-16-20050613	396.5	--	--	325	< 0	--	500	--	--	40	--	--	--	--	960	--
MW-16	10/31/2005	MW-16-20051031	335.5	--	--	275	< 0	--	--	--	--	--	--	--	--	--	--	--
MW-16	5/16/2006	MW-16-20060516	340.4	--	--	279	< 0	--	613	--	--	32.5	--	--	--	--	1,190	--
MW-16	10/11/2006	MW-16-20061011	340.4	--	--	279	< 0	--	624	--	--	36.2	--	--	--	--	1,160	--
MW-16	4/18/2007	MW-16-20070418	347.7	--	--	285	< 0	--	579	--	--	31.9	--	--	--	--	1,170	--
MW-16	11/14/2007	MW-16-20071114	375.8	--	--	308	< 0	--	478	--	--	30	--	--	--	--	1,120	--
MW-16	5/7/2008	MW-16-20080507	378.2	--	--	310	< 0	--	536	--	--	32.6	--	--	--	--	1,120	--
MW-16	12/4/2009	MW-16-20091204	327	--	--	268	< 0	--	475	--	--	28.1	--	--	--	--	1,020	--
MW-16	9/27/2012	MW-16-092712-01	320	< 6.0	< 6.0	320	< 6.0	--	510	--	--	33	--	--	--	--	1,300	--
MW-16	11/19/2013	FC-16-111913	490	< 6.0	< 6.0	490	< 6.0	--	700	--	--	36	--	--	--	--	1,600	--
MW-16	3/12/2014	FC-16-031214	490	< 6.0	< 6.0	490	< 6.0	--	660	--	--	37	--	--	--	--	1,700	--
MW-16	9/9/2014	FCPP-16-090914	490	< 6.0	< 6.0	490	< 6.0	--	660	--	--	39	--	--	--	--	1,700	--
MW-16	3/17/2015	FCPP-16-031715	510	< 6.0	< 6.0	510	< 6.0	--	680	--	--	37	--	--	--	--	1,600	--
MW-16	6/29/2015	MW-16	520	< 6.0	< 6.0	520	< 6.0	--	710	--	--	39	--	--	--	--	1,600	--
MW-16	8/26/2015	FCPP-16-082615	520	< 6.0	< 6.0	520	< 6.0	--	690	--	--	44	--	--	--	--	1,800	--
MW-16	11/10/2015	FC MW-16-(111115)	480	< 6.0	< 6.0	480	< 6.0	--	1,200	--	--	48	--	--	--	--	2,500	--
MW-16	6/18/2016	FC-Seep-MW16-616	540	< 6.0	< 6.0	540	< 6.0	--	1,100	--	--	48	--	--	--	--	2,600	--
MW-16	9/15/2016	FC-Seep-MW16-916	530	< 6.0	< 6.0	530	< 6.0	--	1,100	--	--	49	--	--	--	--	2,600	--
MW-16	3/20/2019	FC-CCR-MW16-032019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-16	3/20/2019	FC-CCR-MW16-032019	--	--	--	--	--	--	--	--	--	--	--	< 0.6	2.9	--	--	--
MW-16	5/14/2019	FC-CCR-MW16-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-16	5/14/2019	FC-CCR-MW16-51419	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.9	--	--	--
MW-16	5/14/2019	*DUP* FC-CCR-FD02-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-16	5/14/2019	*DUP* FC-CCR-FD02-51419	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.7	--	--	--
MW-16	11/19/2019	FC-CCR-MW16-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-16	6/23/2020	FC-CCR-MW16-0620	--	--	--	--	--	--	--	--	--	--	--	0.9	2.2	--	--	--
MW-16	11/6/2020	FC-CCR-MW16-1120	610	< 6	< 6	610	< 6	--	1,300	--	--	54	--	0.9	2.7	--	3,000	--
MW-16	4/27/2021	FC-CCR-MW16-0421	650	< 6	< 6	650	< 6	--	1,400	--	--	58	--	0.9	1.1	--	3,100	--
MW-16	11/18/2021	FC-CCR-MW16-1121	580	< 6	< 6	580	< 6	0.14	1,300	--	1.2	50	--	0.6	1.9	--	3,100	--
MW-16	2/8/2022	FC-CCR-MW16-0222	620	< 6	< 6	620	< 6	0.18	1,400	--	--	59	--	--	--	--	3,000	--
MW-16	5/26/2022	FC-CCR-MW16-0522	600	< 6	< 6	600	< 6	0.15	1,500	--	--	60	--	1	2.4 J	--	3,500	--
MW-16	8/13/2022	FC-CCR-MW16-0822	600	< 6	< 6	600	< 6	0.15	1,400	--	--	52	--	--	--	--	3,100	--
MW-16	11/16/2022	FC-CCR-MW16-1122	610	< 6	< 6	610	< 6	0.16	1,500	--	--	51	--	1.9	3.2	--	3,300	--
MW-17R	3/12/2014	FC-17R-031214	120	< 6.0	< 6.0	120	< 6.0	--	280	--	--	19	--	--	--	--	960	--
MW-17R	9/9/2014	FCPP-17R-090914	120	< 6.0	< 6.0	120	< 6.0	--	270	--	--	21	--	--	--	--	990	--
MW-17R	3/17/2015	FCPP-17R-031715	120	< 6.0	< 6.0	120	< 6.0	--	270	--	--	19	--	--	--	--	980	--
MW-17R	6/30/2015	MW-17R	120	< 6.0	< 6.0	120	< 6.0	--	280	--	--	20	--	--	--	--	980	--
MW-17R	8/25/2015	FCPP-17R-082515	130	< 6.0	< 6.0	130	< 6.0	--	290	--	--	23	--	--	--	--	1,000	--
MW-17R	11/4/2015	FC MW-17R-(041115)	--	--	--	--	--	--	420	--	--	29	--	--	--	--	1,300	--
MW-17R	11/13/2015	FC MW-17R-(131115)	130	< 6.0	< 6.0	130	< 6.0	--	280	--	--	21	--	--	--	--	1,100	--
MW-17R	6/18/2016	FC-Seep-MW17B-616	130	< 6.0	< 6.0	130	< 6.0	--	290	--	--	20	--	--	--	--	1,100	--
MW-17R	9/15/2016	FC-Seep-MW17R-916	120	< 6.0	< 6.0	120	< 6.0	--	260	--	--	21	--	--	--	--	1,000	--
MW-17R	3/19/2019	FC-CCR-MW17R-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17R	3/19/2019	FC-CCR-MW17R-031919	--	--	--	--	--	--	--	--	--	--	--	< 0.6	2.4	--	--	--
MW-17R	5/14/2019	FC-CCR-MW17R-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17R	5/14/2019	FC-CCR-MW17R-51419	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.7	--	--	--
MW-17R	5/14/2019	*DUP* FC-CCR-FD01-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17R	5/14/2019	*DUP* FC-CCR-FD01-51419	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.2	--	--	--
MW-17R	11/19/2019	FC-CCR-MW17R-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17R	6/22/2020	FC-CCR-MW17R-0620	--	--	--	--	--	--	--	--	--	--	--	0.8	1.1	--	--	--
MW-17R	11/7/2020	FC-CCR-MW17R-1120	140	< 6	< 6	140	< 6	--	260	--	--	20	--	0.8	1.2	--	1,100	--
MW-17R	4/25/2021	FC-CCR-MW17R-0421	140	< 6	< 6	140	< 6	0.094 J	290	--	0.83	22	--	0.9	1.3	--	1,100	--
MW-17R	11/16/2021	FC-CCR-MW17R-1121	130	< 6	< 6	130	< 6	0.048 J	290	--	0.83	21	--	1.4	1.8	--	1,100	--
MW-17R	2/9/2022	FC-CCR-MW17R-0222	140	< 6	< 6	140	< 6	< 0.1 U	300	--	--	20	--	--	--	--	1,100	--
MW-17R	2/9/2022	*DUP* FC-CCR-FD01-0222	140	< 6	< 6	140	< 6	< 0.1 U	280	--	--	20	--	--	--	--	1,000	--
MW-17R	5/25/2022	FC-CCR-MW17R-0522	130	< 6	< 6	130	< 6	< 0.1	280	--	0.84	20	--	0.7	1.3	--	1,200	--
MW-17R	8/11/2022	FC-CCR-MW17R-0822	130	< 6	< 6	130	< 6	< 0.1	280	--	--	18	--	--	--	--	1,000	--
MW-17R	11/15/2022	FC-CCR-MW17R-1122	140	< 6	< 6	140	< 6	< 0.1	290	--	0.87	21	--	1.5	0.9	--	1,100	--
MW-18	9/29/1987	MW-18_9/29/1987	--	--	--	310	--	--	--	1,300	--	--	41	--	--	< 0.05	--	2,200
MW-18	6/15/1988	MW-18-19880615	524.6	--	--	430	< 0	--	1,475	--	--	56	--	--	--	--	3,600	--
MW-18	9/21/1988	MW-18-19880921	488	--	--	400	< 0	--	1,220	--	--	49	--	--	--	--	2,530	--
MW-18	11/28/1988	MW-18-19881128	451.4	--	--	370	< 0	--	1,520	--	--	53	--	--	--	--	1,830	--
MW-18	2/27/1989	MW-18-19890227	488	--	--	400	< 0	--	1,230	--	--	53	--	--	--	--	2,550	--
MW-18	9/11/1989	MW-18-19890911	395.3	--	--	324	< 0	--	1,275	--	--	46	--	--	--	--	2,300	--
MW-18	3/26/1990	MW-18-19900326	427	--	--	350	< 0	--	1,100	--	--	48	--	--	--	--	2,700	--
MW-18	9/18/1990	MW-18-19900918	396.5	--	--	325	< 0	--	1,000	--	--	50	--	--	--	--	2,400	--
MW-18	5/30/1991	MW-18-19910530	732	--	--	600	< 0	--	1,440	--	--	56	--	--	--	--	4,310	--
MW-18	9/11/1991	MW-18-19910911	488	--	--	400	< 0	--	1,440	--	--	56	--	--	--	--	2,820	--
MW-18	5/5/1992	MW-18-19920505	915	--	--	750	< 0	--	1,600	--	--	69	--	--	--	--	6,400	--
MW-18	10/27/1992	MW-18-19921027	976	--	--	800	< 0	--	1,400	--	--	81	--	--	--	--	6,600	--
MW-18	4/26/1993	MW-18-19930426	854	--	--	700	< 0	--	1,300	--	--	77	--	--	--	--	5,000	--
MW-18	11/23/1993	MW-18-19931123	579.5	--	--	475	< 0	--	1,200	--	--	63	--	--	--	--	3,600	--
MW-18	4/21/1994	MW-18-19940421	579.5	--	--	475	< 0	--	1,400	--	--	71	--	--	--	--	3,600	--
MW-18	9/20/1994	MW-18-19940920	549	--	--	450	< 0	--	1,200	--	--	73	--	--	--	--	3,600	--
MW-18	12/14/1994	MW-18-19941214	--	--	--	--	--	--	1,000	--	--	38	--	--	--	--	2,100	--
MW-18	4/5/1995	MW-18-19950405	854	--	--	700	< 0	--	1,400	--	--	71	--	--	--	--	5,000	--
MW-18	12/13/1995	MW-18-19951213	610	--	--	500	< 0	--	1,400	--	--	70	--	--	--	--	5,000	--
MW-18	8/12/1996	MW-18-19960812	640.5	--	--	525	< 0	--	1,200	--	--	56	--	--	--	--	3,800	--
MW-18	4/23/1997	MW-18-19970423	396.5	--	--	325	< 0	--	1,200	--	--	70	--	--	--	--	6,200	--
MW-18	10/20/1997	MW-18-19971020	579.5	--	--	475	< 0	--	1,000	--	--	47	--	--	--	--	2,400	--
MW-18	4/14/1998	MW-18-19980414	549	--	--	450	< 0	--	1,100	--	--	47	--	--	--	--	3,000	--
MW-18	6/8/1999	MW-18-19990608	488	--	--	400	< 0	--	1,100	--	--	43	--	--	--	--	2,600	--
MW-18	12/8/1999	MW-18-19991208	366	--	--	300	< 0	--	1,000	--	--	45	--	--	--	--	3,600	--
MW-18	6/8/2000	MW-18-20000608	579.5	--	--	475	< 0	--	990	--	--	38	--	--	--	--	2,040	--
MW-18	11/28/2000	MW-18-20001128	518.5	--	--	425	< 0	--	800	--	--	43	--	--	--	--	2,400	--
MW-18	8/21/2001	MW-18-20010821	579.5	--	--	475	< 0	--	1,240	--	--	49	--	--	--	--	2,800	--
MW-18	12/5/2001	MW-18-20011205	610	--	--	500	< 0	--	1,000	--	--	43	--	--	--	--	3,800	--
MW-18	6/12/2002	MW-18-20020612	671	--	--	550	< 0	--	800	--	--	40	--	--	--	--	2,200	--
MW-18	12/18/2002	MW-18-20021218	488	--	--	400	< 0	--	900	--	--	39	--	--	--	--	2,600	--
MW-18	6/3/2003	MW-18-20030603	457.5	--	--	375	< 0	--	800	--	--	47	--	--	--	0.067	4,600	--
MW-18	9/24/2003	MW-18-20030924	579.5	--	--	475	< 0	--	500	--	--	22.5	--	--	--	--	1,800	--
MW-18	6/16/2004	MW-18-20040616	2,959	--	--	2,425	< 0	--	900	--	--	43	--	--	--	--	2,600	--
MW-18	11/9/2004	MW-18-20041109	3,233	--	--	2,650	< 0	--	860	--	--	35.7	--	--	--	--	1,750	--
MW-18	5/12/2005	MW-18-20050512	366	--	--	300	< 0	--	900	--	--	47	--	--	--	--	2,400	--
MW-18	11/1/2005	MW-18-20051101	579.5	--	--	475	< 0	--	962	--	--	44.3	--	--	--	--	2,770	--
MW-18	5/15/2006	MW-18-20060515	457.5	--	--	375	< 0	--	908	--	--	41.9	--	--	--	--	2,420	--
MW-18	10/13/2006	MW-18-20061013	386.7	--	--	317	< 0	--	880	--	--	37.6	--	--	--	--	2,020	--
MW-18	4/18/2007	MW-18-20070418	475.8	--	--	390	< 0	--	864	--	--	41.4	--	--	--	--	2,300	--
MW-18	11/20/2007	MW-18-20071120	444.1	--	--	364	< 0	--	692	--	--	32.9	--	--	--	--	1,740	--
MW-18	4/30/2008	MW-18-20080430	524.6	--	--	430	< 0	--	827	--	--	41.5	--	--	--	--	1,850	--
MW-18	12/3/2009	MW-18-20091203	915	--	--	750	< 0	--	848	--	--	49.1	--	--	--	--	4,540	--
MW-18	9/27/2012	MW-18-092712-01	730	< 6.0	< 6.0	730	< 6.0	--	1,000	--	--	57	--	--	--	--	5,400	--
MW-18	11/19/2013	FC-18-111913	720	< 6.0	< 6.0	720	< 6.0	--	930	--	--	57	--	--	--	--	4,800	--
MW-18	3/12/2014	FC-18-031214	720	< 6.0	< 6.0	720	< 6.0	--	800	--	--	58	--	--	--	--	4,900	--
MW-18	9/10/2014	FCPP-18-091014	740	< 6.0	< 6.0	740	< 6.0	--	920	--	--	59	--	--	--	--	5,200	--
MW-18	3/18/2015	FCPP-18-031815	750	< 6.0	< 6.0	750	< 6.0	--	890	--	--	55	--	--	--	--	5,500	--
MW-18	6/30/2015	MW-18	740	< 6.0	< 6.0	740	< 6.0	--	790	--	--	60	--	--	--	--	5,200	--
MW-18	8/25/2015	FCPP-18-082515	740	< 6.0	< 6.0	740	< 6.0	--	760	--	--	68	--	--	--	--	5,300	--
MW-18	11/6/2015	FC MW-18-(061115)	750	< 6.0	< 6.0	750	< 6.0	--	940	--	--	56	--	--	--	--	5,900	--
MW-18	6/17/2016	FC-Seep-MW18-616	820	< 6.0	< 6.0	820	< 6.0	--	840	--	--	65	--	--	--	--	6,600	--
MW-18	9/15/2016	FC-Seep-MW18-916	450	< 6.0	< 6.0	450	< 6.0	--	790	--	--	45	--	--	--	--	2,100	--
MW-18	6/22/2020	FC-CCR-MW18-0620	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-18	11/7/2020	FC-CCR-MW18-1120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-18	4/25/2021	FC-CCR-MW18-0421	900	< 6	< 6	900	< 6	0.41	1,100	--	2.6	110	--	--	--	--	7,100	--
MW-18	11/16/2021	FC-CCR-MW18-1121	850	< 6	< 6	850	< 6	0.54	1,100	--	2.5	93	--	--	--	--	7,400	--
MW-18	2/8/2022	FC-CCR-MW18-0222	970	< 6	< 6	970	< 6	0.41	990	--	--	110	--	--	--	--	6,800	--
MW-18	5/25/2022	FC-CCR-MW18-0522	950	< 6	< 6	950	< 6	0.35	1,100	--	2.7	96	--	--	--	--	7,600	--
MW-18	8/12/2022	FC-CCR-MW18-0822	950	< 6	< 6	950	< 6	0.43	1,100	--	--	93	--	--	--	--	7,200	--
MW-18	11/14/2022	FC-CCR-MW18-1122	970	< 6	< 6	970	< 6	0.30	1,000	--	2.5	95	--	--	--	--	7,500	--
MW-23R	3/11/2014	FC-23RMS-031114	--	--	--	--	--	--	810	--	--	36	--	--	--	--	1,500	--
MW-23R	3/11/2014	FC-23R-031114	400	< 6.0	< 6.0	400	< 6.0	--	830	--	--	39	--	--	--	--	1,600	--
MW-23R	9/11/2014	FCPP-23R-91114	410	< 6.0	< 6.0	410	< 6.0	--	3,700	--	--	130	--	--	--	--	6,400	--
MW-23R	12/8/2014	FCPP-MW23R-12914	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23R	3/18/2015	FCPP-23R-031815	370	< 6.0	< 6.0	370	< 6.0	--	890	--	--	32	--	--	--	--	1,500	--
MW-23R	6/30/2015	MW-23R	360	< 6.0	< 6.0	360	< 6.0	--	800	--	--	33	--	--	--	--	1,400	--
MW-23R	11/3/2015	FC MW-23R-(031115)	--	--	--	--	--	--	890	--	--	36	--	--	--	--	1,500	--
MW-23R	11/13/2015	FC MW-23R-(131115)	370	< 6.0	< 6.0	370	< 6.0	--	830	--	--	33	--	--	--	--	1,500	--
MW-23R	6/21/2016	FC-SEEPS-MW-23R-062116	380	< 6.0	< 6.0	380	< 6.0	--	750	--	--	32	--	--	--	--	1,400	--
MW-23R	9/15/2016	FC-Seep-MW23R-916	400	< 6.0	< 6.0	400	< 6.0	--	790	--	--	34	--	--	--	--	1,500	--
MW-23R	6/21/2020	FC-CCR-MW23R-0620	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23R	11/7/2020	FC-CCR-MW23R-1120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23R	4/25/2021	FC-CCR-MW23R-0421	490	< 6	< 6	490	< 6	0.18	1,100	--	0.038	41	--	--	--	--	1,700	--
MW-23R	11/14/2021	FC-CCR-MW23R	500	< 6	< 6	500	< 6	0.19	1,600	--	< 0.01	38	--	--	--	--	2,500	--
MW-23R	2/9/2022	FC-CCR-MW23R-0222	500	< 6	< 6	500	< 6	0.17	1,200	--	--	40	--	--	--	--	1,900	--
MW-23R	5/25/2022	FC-CCR-MW23R-0522	500	< 6	< 6	500	< 6	0.14	1,300	--	< 0.01	40	--	--	--	--	2,100	--
MW-23R	8/12/2022	FC-CCR-MW23R-0822	500	< 6	< 6	500	< 6	0.15	1,200	--	--	38	--	--	--	--	1,900	--
MW-23R	11/11/2022	FC-CCR-MW23R-1122	500	< 6	< 6	500	< 6	0.31	1,300	--	< 0.014 U	41	--	--	--	--	2,000	--
MW-24	3/19/2015	FCPP-24-031915	170	< 6.0	< 6.0	170	< 6.0	--	210	--	--	36	--	--	--	--	6,200	--
MW-24	6/29/2015	MW-24	160	< 6.0	< 6.0	160	< 6.0	--	220	--	--	68	--	--	--	--	6,000	--
MW-24	8/26/2015	FCPP-24-082615	230	< 6.0	< 6.0	230	< 6.0	--	190	--	--	59	--	--	--	--	6,800	--
MW-24	6/20/2016	FC-Seep-MW24-616	320	< 6.0	< 6.0	320	< 6.0	--	210	--	--	45	--	--	--	--	7,800	--
MW-24	9/15/2016	FC-Seep-MW24-916	340	< 6.0	< 6.0	340	< 6.0	--	180	--	--	42	--	--	--	--	7,800	--
MW-24	4/26/2021	FC-CCR-MW24-0421	320	< 6	< 6	320	< 6	0.16	220	--	1.9	62	--	--	--	--	7,700	--
MW-24	11/16/2021	FC-CCR-MW24-1121	290	< 6	< 6	290	< 6	0.22	210	--	1.8	49	--	--	--	--	6,900	--
MW-24	2/8/2022	FC-CCR-MW24-0222	300	< 6	< 6	300	< 6	0.37	210	--	--	60	--	--	--	--	6,600	--
MW-24	5/25/2022	FC-CCR-MW24-0522	290	< 6	< 6	290	< 6	0.11	190	--	1.8	46	--	--	--	--	7,300	--
MW-24	8/12/2022	FC-CCR-MW24-0822	290	< 6	< 6	290	< 6	0.17	210	--	--	50	--	--	--	--	7,300	--
MW-24	11/14/2022	FC-CCR-MW24-1122	290	< 6	< 6	290	< 6	0.12	200	--	1.8	51	--	--	--	--	7,400	--
MW-34	6/23/2020	FC-CCR-MW34-0620	210	< 6	< 6	210	< 6	--	480	--	--	28	--	< 0.4	0.6	--	1,100	--
MW-36R	3/12/2014	FC-36R-031214	190	< 6.0	< 6.0	190	< 6.0	--	460	--	--	24	--	--	--	--	970	--
MW-36R	9/9/2014	FCPP-36R-090914	190	< 6.0	< 6.0	190	< 6.0	--	470	--	--	27	--	--	--	--	1,000	--
MW-36R	3/19/2015	FCPP-36R-031915	240	< 6.0	< 6.0	240	< 6.0	--	560	--	--	26	--	--	--	--	1,100	--
MW-36R	6/30/2015	MW-36R	190	< 6.0	< 6.0	190	< 6.0	--	460	--	--	25	--	--	--	--	980	--
MW-36R	8/25/2015	FCPP-36R-082515	250	< 6.0	< 6.0	250	< 6.0	--	560	--	--	30	--	--	--	--	1,100	--
MW-36R	11/3/2015	FC MW-36R-(031115)	--	--	--	--	--	--	570	--	--	26	--	--	--	--	1,100	--
MW-36R	11/13/2015	FC MW-36R-(131115)	220	< 6.0	< 6.0	220	< 6.0	--	530	--	--	24	--	--	--	--	1,000	--
MW-36R	6/17/2016	FC-Seep-MW36R-616	230	< 6.0	< 6.0	230	< 6.0	--	520	--	--	27	--	--	--	--	1,100	--
MW-36R	9/15/2016	FC-Seep-MW36R-916	160	< 6.0	< 6.0	160	< 6.0	--	340	--	--	25	--	--	--	--	960	--
MW-36R	6/21/2020	FC-CCR-MW36R-0620	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36R	11/7/2020	FC-CCR-MW36R-1120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36R	11/7/2020	*DUP* FC-CCR-FD04-1120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

Appendix III Constituents

Well	Unit	Gradient	Date	Sample ID	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
				Filtered:	N	Y	N	Y	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*3.95*	*454.1*	*454.1*	*604.7*	*2.1*	*6.52-7.88*	*6.52-7.88*	*22,000*	*34,397*
				Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--
MW-36R	Multiunit 1	Downgradient	4/25/2021	FC-CCR-MW36R-0421	53	--	500	--	510	0.29 J	8.04	7.6 J	4,300	6,800
MW-36R	Multiunit 1	Downgradient	11/14/2021	FC-CCR-MW36R	57	--	--	--	--	--	7.16	--	--	--
MW-36R	Multiunit 1	Downgradient	2/9/2022	FC-CCR-MW36R-0222	1.6	--	490	--	500	0.32	7.21	7.6 J	4,300	7,500
MW-36R	Multiunit 1	Downgradient	5/25/2022	FC-CCR-MW36R-0522	51	--	460	--	460	< 0.8	7.06	7.50 J	3,900	7,200
MW-36R	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW36R-0822	52	--	470	--	490	< 0.8	7.34	7.5 J	4,100	6,600
MW-36R	Multiunit 1	Downgradient	11/11/2022	FC-CCR-MW36R-1122	55	--	500	--	520	< 2	7.25	7.4 J	4,000	7,200
MW-38R	Multiunit 1	Downgradient	3/12/2014	FC-38R-031214	39	--	440	--	1,300	< 0.80	--	--	12,000	18,000
MW-38R	Multiunit 1	Downgradient	9/11/2014	FCPP-38R-91114	43	--	420	--	1,400	< 0.80	--	--	20,000	32,000
MW-38R	Multiunit 1	Downgradient	3/19/2015	FCPP-38R-031915	34	--	410	--	1,200	< 0.80	--	--	18,000	29,000
MW-38R	Multiunit 1	Downgradient	6/30/2015	MW-38R	35	--	390	--	710	< 2.0	--	7.51	9,500	16,000
MW-38R	Multiunit 1	Downgradient	8/29/2015	FCPP-38R-082915	33	--	420	--	560	< 2.0	--	7.47	8,800	14,000
MW-38R	Multiunit 1	Downgradient	11/10/2015	FC MW-38R-(101115)	34	--	490	--	810	< 2.0	--	7.25	16,000	20,000
MW-38R	Multiunit 1	Downgradient	6/21/2016	FC-SEEPS-MW-38R-DUP 06211	27	--	400	--	520	< 0.40	--	7.37	8,200	12,000
MW-38R	Multiunit 1	Downgradient	6/21/2016	FC-SEEPS-MW-38R-062116	25	--	400	--	590	< 0.40	--	7.32	9,400	15,000
MW-38R	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW38R-916	26	--	380	--	420	< 0.40	--	7.4	7,700	12,000
MW-38R	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW106-916	27	--	390	--	470	< 0.40	--	7.4	8,600	13,000
MW-38R	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW38R-031919	--	--	--	--	--	< 0.40	--	--	--	--
MW-38R	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW38R-031919	--	--	--	--	--	--	--	--	--	--
MW-38R	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW38R-51419	24	--	400	--	300	< 0.80	--	7.7 J	4,900	8,200
MW-38R	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW38R-51419	--	--	--	--	--	--	--	--	--	--
MW-38R	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW38R-111919	26	--	450	--	270	< 0.80	--	7.5 J	4,000	6,100
MW-38R	Multiunit 1	Downgradient	11/19/2019	*DUP* FC-CCR-FD01-111919	27	--	450	--	270	< 0.80	--	7.5 J	4,000	5,900
MW-38R	Multiunit 1	Downgradient	6/22/2020	FC-CCR-MW38R-0620	29	--	450	--	290	< 0.8	6.96	7.2 J	3,700	5,600
MW-38R	Multiunit 1	Downgradient	6/22/2020	*DUP* FC-CCR-FD05-0620	30	--	440	--	290	< 0.8	--	7.4 J	3,800	5,400
MW-38R	Multiunit 1	Downgradient	11/6/2020	FC-CCR-MW38R-1120	27	--	490 / 430	--	280	0.36 J	7.03	7.4 J	4,000	5,800
MW-38R	Multiunit 1	Downgradient	4/27/2021	FC-CCR-MW384R-0421	29	--	490	--	310 J	0.33 J	7.79	7.3 J	4,100	5,900
MW-38R	Multiunit 1	Downgradient	11/16/2021	FC-CCR-MW38R-1121	27	--	460	--	320	0.4 J	6.94	7.6 J	4,500	6,000
MW-38R	Multiunit 1	Downgradient	2/9/2022	FC-CCR-MW38R-0222	27	--	470	--	320	0.45	7.01	7.5 J	4,400	6,000
MW-38R	Multiunit 1	Downgradient	5/25/2022	FC-CCR-MW38R-0522	27	--	440	--	310	< 0.8	6.97	7.45 J	4,600	6,200
MW-38R	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW38R-0822	26	--	430	--	330	< 0.8	7.41	7.4 J	4,400	6,600
MW-38R	Multiunit 1	Downgradient	11/15/2022	FC-CCR-MW38R-1122	24	--	460	--	370	< 2	7.03	7.4 J	5,300	8,500
MW-40R	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW40R-117	18	--	410	--	1,900	< 0.40	--	7.8	12,000	18,000
MW-40R	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW40R-117	--	--	--	--	--	< 0.40	--	--	--	--
MW-40R	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW40R-117	--	--	--	--	--	--	--	--	--	--
MW-40R	Multiunit 1	Downgradient	4/26/2021	FC-CCR-MW40R-0421	9.0		440		2,900	0.28 J	7.43	7.0 J	18,000	27,000
MW-46	Multiunit 1	Downgradient	6/30/2015	MW-46	0.37	--	400	--	2,400	< 4.0	--	7.44	18,000	28,000
MW-46	Multiunit 1	Downgradient	11/7/2015	FC MW-46-(07115)	0.50	--	460	--	2,200	< 4.0	--	7.51	17,000	29,000
MW-52	Multiunit 1	Downgradient	3/17/2015	FCPP-MSD02-031715	5.4	--	450	--	470	< 0.40	--	--	5,300	8,100
MW-52	Multiunit 1	Downgradient	3/17/2015	FCPP-52-031715	5.3	--	450	--	470	< 0.40	--	--	5,400	8,500
MW-52	Multiunit 1	Downgradient	8/26/2015	FCPP-52-082615	6.1	--	430	--	500	< 0.80	--	7.48	5,600	8,300
MW-52	Multiunit 1	Downgradient	11/3/2015	FC MW-52-(031115)	6.0	--	460	--	470	< 0.80	--	7.47	5,400	8,400
MW-52	Multiunit 1	Downgradient	6/18/2016	FC-Seep-MW52-616	5.7	--	450	--	480	< 0.40	--	7.64	5,000	8,400
MW-52	Multiunit 1	Downgradient	9/16/2016	FC-Seep-MW52-916	5.9	--	420	--	440	< 0.40	--	7.5	5,000	8,300
MW-52	Multiunit 1	Downgradient	6/20/2020	FC-CCR-MW52-0620	--	--	--	--	--	--	7.17	--	--	--
MW-52	Multiunit 1	Downgradient	11/8/2020	FC-CCR-MW52-1120	7.8	--	--	--	--	--	7.32	--	--	--
MW-52	Multiunit 1	Downgradient	4/23/2021	FC-CCR-MW52-0421	7.6	--	--	--	--	--	8.11	--	--	--
MW-52	Multiunit 1	Downgradient	11/13/2021	FC-CCR-MW52-1121	11	--	450	--	--	--	7.24	--	--	--
MW-52	Multiunit 1	Downgradient	11/13/2021	FC-CCR-FD03-1121	9.7	--	420	--	--	--	7.24	--	--	--
MW-52	Multiunit 1	Downgradient	5/22/2022	FC-CCR-MW52-0522	16	--	--	--	--	--	7.24	--	--	--
MW-52	Multiunit 1	Downgradient	5/22/2022	*DUP* FC-CCR-FD03-0522	15	--	--	--	--	--	7.24	--	--	--
MW-52	Multiunit 1	Downgradient	11/10/2022	FC-CCR-MW52-1122	9.3	--	--	--	--	--	7.38	--	--	--
MW-52	Multiunit 1	Downgradient	11/10/2022	*DUP* FC-CCR-FD03-1122	11	--	--	--	--	--	7.38	--	--	--
MW-54	Multiunit 1	Downgradient	9/10/2014	FCPP-54-091014	3.1	--	440	--	13,000	< 4.0	--	--	190,000	28,000
MW-54	Multiunit 1	Downgradient	3/17/2015	FCPP-54-031715	1.6	--	420	--	1,100	< 4.0	--	--	17,000	24,000
MW-54	Multiunit 1	Downgradient	8/26/2015	FCPP-54-082615	1.4	--	410	--	1,100	< 0.80	--	7.58	35,000	25,000
MW-54	Multiunit 1	Downgradient	11/3/2015	FC MW-54-(031115)	2.7	--	860	--	980	< 0.80	--	7.56	19,000	27,000
MW-54	Multiunit 1	Downgradient	6/20/2016	FC-Seep-MW54-616	1.6	--	420	--	910	0.86	--	7.66	15,000	21,000
MW-54	Multiunit 1	Downgradient	9/16/2016	FC-Seep-MW54-916	1.8	--	400	--	730	0.85	--	7.8	13,000	19,000
MW-56	Multiunit 1	Downgradient	3/12/2014	FC-56-031214	3.4	--	460	--	1,300	< 0.80	--	--	12,000	20,000
MW-56	Multiunit 1	Downgradient	9/10/2014	FCPP-56-091014	3.5	--	320	--	1,000	< 0.40	--	--	11,000	16,000
MW-56	Multiunit 1	Downgradient	3/19/2015	FCPP-56-031915	2.4	--	450	--	1,500	< 0.40	--	--	14,000	21,000
MW-56	Multiunit 1	Downgradient	6/30/2015	MW-56	2.2	--	410	--	1,600	< 4.0	--	7.01	14,000	24,000
MW-56	Multiunit 1	Downgradient	8/25/2015	FCPP-56-082515	1.9	--	430	--	2,300	< 2.0	--	7.3	18,000	29,000
MW-56	Multiunit 1	Downgradient	11/5/2015	FC MW-56-(051115)	2.2	--	480	--	2,100	< 2.0	--	6.88	17,000	25,000
MW-56	Multiunit 1	Downgradient	6/18/2016	FC-Seep-MW56-616	2.5	--	450	--	1,600	< 0.40	--	7.27	12,000	21,000
MW-56	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW56-916	5.4	--	390	--	670	< 0.40	--	7.3	7,600	13,000
MW-56	Multiunit 1	Downgradient	3/20/2019	FC-CCR-MW56-032019	--	--	--	--	--	< 0.80	--	--	--	--
MW-56	Multiunit 1	Downgradient	3/20/2019	FC-CCR-MW56-032019	--	--	--	--	--	--	--	--	--	--
MW-56	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW56-51419	2.7	--	440	--	1,700	< 0.80	--	7.1 J	13,000	22,000
MW-56	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW56-51419	--	--	--	--	--	--	--	--	--	--
MW-56	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW56-111919	2.4	--	460	--	1,900	< 0.80	--	7.2 J	15,000	24,000
MW-56	Multiunit 1	Downgradient	6/22/2020	FC-CCR-MW56-0620	2.2	--	460	--	2,000	< 0.8	7.00	7.1 J	16,000	28,000
MW-56	Multiunit 1	Downgradient	11/7/2020	FC-CCR-MW56-1120	2.0	--	460	--	2,100	< 0.8	6.84	7.4 J	16,000	27,000
MW-56	Multiunit 1	Downgradient	4/26/2021	FC-CCR-MW56-0421	1.8	--	490	--	2,300	< 0.8	7.43	7.4 J	19,000	28,000
MW-56	Multiunit 1	Downgradient	11/16/2021	FC-CCR-MW56-1121	1.8	--	470	--	2,400	< 0.8	6.83	7.8 J	20,000	30,000 J
MW-56	Multiunit 1	Downgradient	2/8/2022	FC-CCR-MW56-0222	53	--	490	--	2,400	< 0.8	6.98	7.5 J	19,000	29,000
MW-56	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW56-0822	1.6	--	500	--	2,200	< 0.8	7.24	7.3 J	18,000	30,000
MW-56	Multiunit 1	Downgradient	11/15/2022	FC-CCR-MW56-1122	1.5	--	470	--	3,300	< 8	7.00	7.4 J	19,000	32,000
MW-57	Multiunit 1	Downgradient	3/12/2014	FC-57-031214	4.9	--	450	--	360	< 0.80	--	--	5,800	8,900
MW-57	Multiunit 1	Downgradient	9/9/2014	FCPP-57MS-090914	7.8	--	440	--	--	--	--	--	--	--
MW-57	Multiunit 1	Downgradient	9/9/2014	FCPP-57-090914	10	--	440	--	330	< 0.40	--	--	5,400	8,700
MW-57	Multiunit 1	Downgradient	3/17/2015	FCPP-57-031715	9.3	--	440	--	360	< 0.40	--	--	5,800	8,500
MW-57	Multiunit 1	Downgradient	6/29/2015	MW-57	9.4	--	410	--	370	< 0.80	--	7.54	5,300	8,800
MW-57	Multiunit 1	Downgradient	8/26/2015	FCPP-57-082615	6.4	--	420	--	370	< 0.80	--	7.46	6,100	9,600
MW-57	Multiunit 1	Downgradient	11/10/2015	FC MW-57-(101115)-MSD	4.3	--	450	--	--	--	--	7.55	--	9,500
MW-57	Multiunit 1	Downgradient	11/10/2015	FC MW-57-(101115)-MS	4.4	--	480	--	--	--	--	7.54	--	9,300
MW-57	Multiunit 1	Downgradient	11/10/2015	FC MW-57-(101115)	4.4	--	430	--	190	< 0.80	--	7.53	6,700	9,400
MW-57	Multiunit 1	Downgradient	11/11/2015	*DUP* FC FD-4-(101115)	4.2	--	430	--	--	--	--	7.54	--	9,200
MW-57	Multiunit 1	Downgradient	6/18/2016	FC-Seep-MW57-616	3.5	--	430	--	370	< 0.40	--	7.59	5,900	9,700
MW-57	Multiunit 1	Downgradient	9/15/2016	FC-Seep-MW57-916	8.7	--	410	--	330	< 0.40	--	7.6	5,700	8,400
MW-57	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW57-031919	--	--	--	--	--	< 0.40	--	--	--	--
MW-57	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW57-031919	--	--	--	--	--	--	--	--	--	--
MW-57	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW57-51419	1.8	--	420	--	470	< 0.80	--	7.4 J	7,300	12,000
MW-57	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW57-51419	--	--	--	--	--	--	--	--	--	--
MW-57	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW57-111919	1.4	--	410	--	410	< 0.80	--	7.3 J	7,100	11,000
MW-57	Multiunit 1	Downgradient	6/22/2020	FC-CCR-MW57-0620	1.3	--	410	--	430	< 0.8	6.85	7.5 J	7,500	11,000
MW-57	Multiunit 1	Downgradient	11/6/2020	FC-CCR-MW57-1120	1.6	--	440	--	540	< 0.4	6.96	7.5 J	8,300	12,000
MW-57	Multiunit 1	Downgradient	4/27/2021	FC-CCR-MW57-0421	0.96	--	460	--	420	< 0.4	7.57	7.5 J	7,400	12,000
MW-57	Multiunit 1	Downgradient	11/17/2021	FC-CCR-MW57-1121	1.1	--	470	--	480	0.19 J	6.96	7.9 J	8,400	11,000
MW-57	Multiunit 1	Downgradient	2/8/2022	FC-CCR-MW57-0222	1.4	--	450	--	560	0.25	6.86	7.6 J	8,700	20,000
MW-57	Multiunit 1	Downgradient	5/24/2022	FC-CCR-MW57-0522	1.0	--	400	--	520	< 0.8	6.88	7.77 J	7,500	12,000
MW-57	Multiunit 1	Downgradient	5/24/2022	FC-CCR-SS09-0522	1.25	--	442	--	484	< 50 / 0.19 J	6.88	8.0 J	8,420	11,800
MW-57	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW57-0822	1.3	--	480	--	510	< 0.8	7.25	7.4 J	8,500	12,000
MW-57	Multiunit 1	Downgradient	11/15/2022	FC-CCR-MW571122	1.3	--	460	--	670	< 4	7.05	7.3 J	9,600	17,000
MW-60	Multiunit 1	Downgradient	11/8/2015	FC-CCR-MW60-110815	46	--	430	--	700	4.5	--	7.35	7,500	11,000
MW-60	Multiunit 1	Downgradient	11/8/2015	FC-CCR-MW60-110815	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	4/26/2016	FC-CCR-MW-60-042616	51	--	460	--	560	2.7	--	--	6,000	11,000
MW-60	Multiunit 1	Downgradient	6/6/2016	FC-CCR-MW60-616	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	6/6/2016	FC-CCR-MW60-616	49	--	410	--	730	2.4	--	7.12	6,500	11,000
MW-60	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW60-816	64	--	440	--	430	6.5	--	7.4	4,900	8,500
MW-60	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW60-816	--	--	--	--	--	15	--	--	--	--
MW-60	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW60-816	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW60-916	64	--	450	--	440	7.2	--	7.6	5,100	8,500
MW-60	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW60-916	--	--	--	--	--	6.2	--	--	--	--
MW-60	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW60-916	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW100-916	65	--	440	--	440	6.0	--	7.6	5,100	8,400
MW-60	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW100-916	--	--	--	--	--	6.4	--	--	--	--
MW-60	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW100-916	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	10/20/2016	FC-CCR-MW60-1016	61	--	410	--	460	--	--	7.6	5,000	8,300
MW-60	Multiunit 1	Downgradient	10/20/2016	FC-CCR-MW60-1016	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	10/20/2016	FC-CCR-MW60-1016	--	--	--	--	--	5.5	--	--	--	--
MW-60	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW60-117	66	--	450	--	440	7.2	--	7.8	5,200	8,200
MW-60	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW60-117	--	--	--	--	--	7.2	--	--	--	--
MW-60	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW60-117	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW60-41817	63	--	440	--	430	6.4	--	7.7	5,000	8,400
MW-60	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW60-41817	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW60-41817	--	--	--	--	--	6.5	--	--	--	--
MW-60	Multiunit 1	Downgradient	5/3/2017	FC-CCR-MW60-5317	--	--	--	--	--	10	--	--	--	--
MW-60	Multiunit 1	Downgradient	5/3/2017	FC-CCR-MW60-5317	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	5/30/2017	FC-CCR-MW60-53017	--	--	--	--	--	7.0	--	--	--	--
MW-60	Multiunit 1	Downgradient	5/30/2017	FC-CCR-MW60-53017	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW60-62217	63	--	440	--	450	--	--	7.7	5,400	8,100
MW-60	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW60-62217	--	--	--	--	--	7.1	--	--	--	--
MW-60	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW60-62217	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW60-72217	64	--	450	--	900	7.0	--	7.6	10,000	8,300
MW-60	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW60-72217	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW60-72217	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW60-81017	66	--	470	--	920	--	--	7.7	11,000	8,100
MW-60	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW60-81017	--	--	--	--	--	7.1	--	--	--	--
MW-60	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW60-81017	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	8/17/2017	FC-CCR-MW60-81717	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	8/17/2017	FC-CCR-MW60-81717	63	--	490	--	440	7.4	--	7.7	5,100	8,200
MW-60	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW60-91017	67	--	470	--	450	--	--	7.6	5,200	7,900
MW-60	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW60-91017	--	--	--	--	--	7.4	--	--	--	--
MW-60	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW60-91017	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	10/12/2017	FC-CCR-MW60-101217	--	--	--	--	--	--	--	--	--	--
MW-60	Multiunit 1	Downgradient	10/12/2017	FC-CCR-MW60-101217	64	--	440	--	480	7.0	--	7.5	5,100	8,300
MW-60	Multiunit 1	Downgradient	6/21/2020	FC-CCR-MW60-0620	--	--	--	--	--	--	7.44	--	--	--
MW-60	Multiunit 1	Downgradient	11/8/2020	FC-CCR-MW60-1120	61	--	--	--	--	--	7.87	--	--	--
MW-60	Multiunit 1	Downgradient	4/24/2021	FC-CCR-MW60-0421	60	--	--	--	--	--	8.53	--	--	--
MW-60	Multiunit 1	Downgradient	11/13/2021	FC-CCR-MW60	65	--	--	--	--	--	7.68	--	--	--
MW-60	Multiunit 1	Downgradient	5/23/2022	FC-CCR-MW60-0522	57	--	--	--	--	--	7.60	--	--	--
MW-60	Multiunit 1	Downgradient	11/10/2022	FC-CCR-MW60-1122	60	--	--	--	--	--	7.76	--	--	--
MW-61	Multiunit 1	Downgradient	11/6/2015	FC-CCR-MW61-110615	35	--	460	--	320	1.2	--	8.81	3,700	5,400
MW-61	Multiunit 1	Downgradient	11/6/2015	FC-CCR-MW61-110615	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	11/6/2015	*DUP* FC-CCR-FD-1-110615	42	--	490	--	330	1.2	--	--	3,700	5,000
MW-61	Multiunit 1	Downgradient	11/6/2015	*DUP* FC-CCR-FD-1-110615	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	4/26/2016	FC-CCR-MW-61-042616	39	--	510	--	280	1.3	--	--	3,400	5,700
MW-61	Multiunit 1	Downgradient	6/6/2016	FC-CCR-MW61-616	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	6/6/2016	FC-CCR-MW61-616	38	--	460	--	650	1.2	--	8.62	3,500	5,500

Appendix IV Constituents

Well	Date	Sample ID	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Mercury	Molybdenum	Selenium	Thallium	Total Radium
		Filtered:	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	Y	N	N	Y	N	N	N	N
		Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
		Multiunit 1 BTV	*0.01*	*0.0086*	*0.009*	*0.042*	*0.042*	*0.001*	*0.001*	*0.002*	*0.002*	*0.02*	*0.02*	*0.01*	*0.01*	*5*	*0.01*	*0.01*	*1.8*	*0.0002*	*0.0002*	*0.12*	*0.092*	*0.017*	*4.43*
		Multiunit 1 GWPS	*0.01*	*0.01*	*0.01*	*2*	*2*	*0.004*	*0.004*	*0.005*	*0.005*	*0.1*	*0.1*	*0.01*	*0.01*	*5*	*0.015*	*0.015*	*1.8*	*0.002*	*0.002*	*0.1*	*0.092*	*0.017*	*5*
MW-36R	4/25/2021	FC-CCR-MW36R-0421	--	--	--	--	--	< 0.001	--	--	--	--	--	0.26	--	0.29 J	--	--	0.61	--	--	0.0012 J	--	--	--
MW-36R	11/14/2021	FC-CCR-MW36R	--	--	--	--	--	--	--	--	--	--	--	0.26	--	--	--	--	--	--	--	0.00056 J	--	--	--
MW-36R	2/9/2022	FC-CCR-MW36R-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.00059	--	0.32	--	--	1.8	--	--	0.0049	--	--	--
MW-36R	5/25/2022	FC-CCR-MW36R-0522	--	--	--	--	--	< 0.001	--	--	--	--	--	0.21	--	< 0.8	--	--	0.62	--	--	< 0.001	--	--	--
MW-36R	8/11/2022	FC-CCR-MW36R-0822	--	--	--	--	--	< 0.001	--	--	--	--	--	0.21	--	< 0.8	--	--	0.63	--	--	0.0007	--	--	--
MW-36R	11/11/2022	FC-CCR-MW36R-1122	--	--	--	--	--	< 0.001	--	--	--	--	--	0.23	--	< 2	--	--	0.66	--	--	0.0008	--	--	--
MW-38R	3/12/2014	FC-38R-031214	--	0.0016	--	--	--	--	--	--	--	0.0015	--	--	--	< 0.80	--	--	--	--	--	--	0.0023	--	--
MW-38R	9/11/2014	FCPP-38R-91114	--	< 0.0040	--	--	--	--	--	--	--	< 0.010	--	--	--	< 0.80	--	--	--	--	--	--	< 0.012	--	--
MW-38R	3/19/2015	FCPP-38R-031915	--	0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.80	--	--	--	--	--	--	0.0044	--	--
MW-38R	6/30/2015	MW-38R	--	< 0.012	--	--	--	--	--	--	--	< 0.012	--	--	--	< 2.0	--	--	--	--	--	--	< 0.012	--	--
MW-38R	8/29/2015	FCPP-38R-082915	--	< 0.0030	--	--	--	--	--	< 0.0010	--	< 0.0030	--	--	--	< 2.0	--	--	--	--	--	--	0.015	--	--
MW-38R	11/10/2015	FC MW-38R-(101115)	--	0.0020	--	--	--	--	--	< 0.00050	--	0.0071	--	--	--	< 2.0	--	--	--	--	--	--	0.011	--	--
MW-38R	6/21/2016	FC-SEEPS-MW-38R-DUP 06211	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-38R	6/21/2016	FC-SEEPS-MW-38R-062116	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-38R	9/15/2016	FC-Seep-MW38R-916	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-38R	9/15/2016	FC-Seep-MW106-916	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-38R	3/19/2019	FC-CCR-MW38R-031919	< 0.0010	0.00051	--	0.018	--	< 0.0010	--	0.00011	--	< 0.0010	--	0.17	--	< 0.40	0.00053	--	0.45	< 0.00020	--	0.016	0.0037	< 0.00010	--
MW-38R	3/19/2019	FC-CCR-MW38R-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8
MW-38R	5/14/2019	FC-CCR-MW38R-51419	--	0.00060	--	0.017	--	--	--	0.00013	--	--	--	0.16	--	< 0.80	0.00085	--	0.50	--	--	0.083	0.0033	< 0.00010	--
MW-38R	5/14/2019	FC-CCR-MW38R-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-38R	11/19/2019	FC-CCR-MW38R-111919	< 0.0010	< 0.00050	--	0.020	--	< 0.0010	--	0.00013	--	0.0011	--	0.23	--	< 0.80	< 0.00050	--	0.37	< 0.00020	--	0.0050	0.0010	< 0.00010	--
MW-38R	11/19/2019	*DUP* FC-CCR-FD01-111919	< 0.0010	0.00064	--	0.019	--	< 0.0010	--	0.00015	--	0.0011	--	0.23	--	< 0.80	< 0.00050	--	0.37	< 0.00020	--	0.0049	0.00080	< 0.00010	--
MW-38R	6/22/2020	FC-CCR-MW38R-0620	< 0.002	< 0.001	--	0.014	--	--	--	< 0.0002	--	< 0.002	--	0.24	--	< 0.8	< 0.001	--	0.49	--	--	0.0057	< 0.001	< 0.0002	0.4
MW-38R	6/22/2020	*DUP* FC-CCR-FD05-0620	< 0.004	< 0.002	--	0.016	--	--	--	< 0.0004	--	< 0.004	--	0.28	--	< 0.8	< 0.002	--	0.49	--	--	0.0063	< 0.002	< 0.0004	1.1
MW-38R	11/6/2020	FC-CCR-MW38R-1120	< 0.004	0.0013	--	0.014	--	< 0.001	--	0.00032	--	0.0022	--	0.28	--	0.36 J	< 0.002	--	0.41	--	--	0.0073	0.0026	< 0.0004	< 0.8
MW-38R	4/27/2021	FC-CCR-MW384R-0421	< 0.004	< 0.002	--	0.013	--	< 0.001	--	0.00013 J	--	< 0.004	--	0.25	--	0.33 J	0.0020	--	0.39	--	--	0.0065	0.0016 J	< 0.0004	<0.8
MW-38R	11/16/2021	FC-CCR-MW38R-1121	< 0.002 U	0.00072 J	--	0.013	--	< 0.001	--	< 0.0002	--	0.0012 J	--	0.25	--	0.4 J	< 0.0005	--	0.40	--	--	0.0060	0.0012 J	0.000049 J	0.4
MW-38R	2/9/2022	FC-CCR-MW38R-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.22	--	0.45	--	--	0.42	--	--	0.0048	--	--	--
MW-38R	5/25/2022	FC-CCR-MW38R-0522	< 0.002	< 0.001	--	0.016	--	< 0.001	--	< 0.0002	--	< 0.002	--	0.26	--	< 0.8	< 0.001	--	0.39	--	--	0.019	0.0027	< 0.0002	<0.6
MW-38R	8/11/2022	FC-CCR-MW38R-0822	--	--	--	--	--	< 0.001	--	--	--	--	--	0.20	--	< 0.8	--	--	0.44	--	--	0.028	--	--	--
MW-38R	11/15/2022	FC-CCR-MW38R-1122	< 0.001	< 0.0005	--	0.014	--	< 0.001	--	< 0.0001	--	< 0.001	--	0.17	--	< 2	< 0.0005	--	0.55	--	--	0.0044	0.011	< 0.0001	< 0.6
MW-40R	2/2/2017	FC-CCR-MW40R-117	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--
MW-40R	2/2/2017	FC-CCR-MW40R-117	< 0.0020	< 0.0010	--	0.023	--	< 0.0010	--	0.00058	--	0.028	--	0.034	--	< 0.40	< 0.00050	--	1.1	< 0.00020	--	0.026	0.0018	0.00021	--
MW-40R	2/2/2017	FC-CCR-MW40R-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6
MW-40R	4/26/2021	FC-CCR-MW40R-0421	< 0.001 U	0.0030		0.019		< 0.001		< 0.0001		0.012		0.012		0.28 J	< 0.0005		1.9	< 0.0002		0.062	0.0016	< 0.0001 U	2.2
MW-46	6/30/2015	MW-46	--	< 0.012	--	--	--	--	--	--	--	< 0.012	--	--	--	< 4.0	--	--	--	--	--	--	0.012	--	--
MW-46	11/7/2015	FC MW-46-(07115)	--	0.0062	--	--	--	--	--	< 0.00050	--	0.048	--	--	--	< 4.0	--	--	--	--	--	--	< 0.0030	--	--
MW-52	3/17/2015	FCPP-MSD02-031715	--	< 0.0010	--	--	--	--	--	--	--	< 0.0020	--	--	--	< 0.40	--	--	--	--	--	--	0.0029	--	--
MW-52	3/17/2015	FCPP-52-031715	--	0.00030	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	0.00074	--	--
MW-52	8/26/2015	FCPP-52-082615	--	< 0.0060	--	--	--	--	--	--	--	< 0.0060	--	--	--	< 0.80	--	--	--	--	--	--	< 0.0060	--	--
MW-52	11/3/2015	FC MW-52-(031115)	< 0.0050	< 0.0010	--	0.018	--	< 0.0010	--	< 0.00050	--	< 0.0025	--	0.068	--	< 0.80	0.00070	--	< 5.0	< 0.00020	--	0.0040	< 0.0030	< 0.00050	--
MW-52	6/18/2016	FC-Seep-MW52-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-52	9/16/2016	FC-Seep-MW52-916	--	< 0.0020	--	--	--	--	--	--	--	< 0.0050	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-52	6/20/2020	FC-CCR-MW52-0620	--	--	--	--	--	--	--	--	--	--	--	0.12	--	--	--	--	--	--	--	0.0035	--	--	--
MW-52	11/8/2020	FC-CCR-MW52-1120	--	--	--	--	--	--	--	--	--	--	--	0.11	--	--	--	--	--	--	--	0.0024	--	--	--
MW-52	4/23/2021	FC-CCR-MW52-0421	--	--	--	--	--	--	--	--	--	--	--	0.089	--	--	--	--	--	--	--	0.0026	--	--	--
MW-52	11/13/2021	FC-CCR-MW52-1121	--	--	--	--	--	< 0.001	--	--	--	--	--	0.12	--	--	--	--	0.65	--	--	0.0031	--	--	--
MW-52	11/13/2021	FC-CCR-FD03-1121	--	--	--	--	--	< 0.001	--	--	--	--	--	0.12	--	--	--	--	0.65	--	--	0.0031	--	--	--
MW-52	5/22/2022	FC-CCR-MW52-0522	--	--	--	--	--	--	--	--	--	--	--	0.088	--	--	--	--	--	--	--	0.0047	--	--	--
MW-52	5/22/2022	*DUP* FC-CCR-FD03-0522	--	--	--	--	--	--	--	--	--	--	--	0.092	--	--	--	--	--	--	--	0.0053	--	--	--
MW-52	11/10/2022	FC-CCR-MW52-1122	--	--	--	--	--	--	--	--	--	--	--	0.13	--	--	--	--	--	--	--	0.0030	--	--	--
MW-52	11/10/2022	*DUP* FC-CCR-FD03-1122	--	--	--	--	--	--	--	--	--	--	--	0.13	--	--	--	--	--	--	--	0.0028	--	--	--
MW-54	9/10/2014	FCPP-54-091014	--	0.0078	--	--	--	--	--	--	--	0.0082	--	--	--	< 4.0	--	--	--	--	--	--	0.0068	--	--
MW-54	3/17/2015	FCPP-54-031715	--	0.0041	--	--	--	--	--	--	--	0.0032	--	--	--	< 4.0	--	--	--	--	--	--	0.0041	--	--
MW-54	8/26/2015	FCPP-54-082615	--	< 0.0060	--	--	--	--	--	--	--	< 0.0060	--	--	--	< 0.80	--	--	--	--	--	--	0.018	--	--
MW-54	11/3/2015	FC MW-54-(031115)	0.0030	0.0041	--	0.27	--	0.0009	--	0.00029	--	0.0027	--	0.0055	--	< 0.80	0.012	--	< 10	< 0.00020	--	0.039	0.0055	0.00083	--
MW-54	6/20/2016	FC-Seep-MW54-616	--	< 0.005	--	--	--	--	--	--	--	0.0054	--	--	--	0.86	--	--	--	< 0.00020	--	--	--	--	--
MW-54	9/16/2016	FC-Seep-MW54-916	--	0.0025	--	--	--	--	--	--	--	< 0.0050	--	--	--	0.85	--	--	--	< 0.00020	--	--	--	--	--
MW-56	3/12/2014	FC-56-031214	--	0.00060	--	--	--	--	--	--	--	0.00067	--	--	--	< 0.80	--	--	--	--	--	--	0.19	--	--
MW-56	9/10/2014	FCPP-56-091014	--	0.00054	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	0.10	--	--
MW-56	3/19/2015	FCPP-56-031915	--	< 0.0040	--	--	--	--	--	--	--	< 0.010	--	--	--	< 0.40	--	--	--	--	--	--	0.63	--	--
MW-56	6/30/2015	MW-56	--	< 0.012	--	--	--	--	--	--	--	< 0.012	--	--	--	< 4.0	--	--	--	--	--	--	0.20	--	--
MW-56	8/25/2015	FCPP-56-082515	--	< 0.030	--	--	--	--	--	--	--	< 0.030	--	--	--	< 2.0	--	--	--	--	--	--	0.19	--	--
MW-56	11/5/2015	FC MW-56-(051115)	< 0.0025	< 0.0010	--	0.021	--	< 0.0010	--	< 0.00050	--	< 0.0025	--	0.0041	--	< 2.0	< 0.00050	--	< 5.0	< 0.00020	--	0.0046	0.16	0.0012	--
MW-56	6/18/2016	FC-Seep-MW56-616	--	< 0.005	--	--	--	--	--	--	--	< 0.005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-56	9/15/2016	FC-Seep-MW56-916	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-56	3/20/2019	FC-CCR-MW56-032019	< 0.0010	0.0084	--	0.021	--	< 0.0010	--	0.00011	--	< 0.0010	--	0.00075	--	< 0.80	< 0.00050	--	1.2	< 0.00020	--	0.089	0.21	0.00075	--
MW-56	3/20/2019	FC-CCR-MW56-032019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3
MW-56	5/14/2019	FC-CCR-MW56-51419	--	0.0043	--	0.020	--	--	--	< 0.00010	--	--	--	0.00054	--	< 0.80	< 0.00050	--	1.4	--	--	0.019	0.26	0.00080	--
MW-56	5/14/2019	FC-CCR-MW56-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.7
MW-56	11/19/2019	FC-CCR-MW56-111919	< 0.0010	0.0096	--	0.018	--	< 0.0010	--	0.00016	--	< 0.0010	--	0.00056	--	< 0.80	< 0.00050	--	1.5	< 0.00020	--	0.0053	0.26	0.00085	--
MW-56	6/22/2020	FC-CCR-MW56-0620	< 0.004	0.0053	--	0.017	--	--	--	< 0.0004	--	< 0.004	--	< 0.002	--	< 0.8	< 0.002	--	< 2	--	--	0.0045	0.30	0.0011	3.4
MW-56	11/7/2020	FC-CCR-MW56-1120	0.0002	0.015	--	0.02	--	< 0.001	--	0.00068	--	0.0023	--	0.00074	--	< 0.8	< 0.002	--	1.7	--	--	0.0047	0.31	0.0011	2.2
MW-56	4/26/2021	FC-CCR-MW56-0421	< 0.004 U	0.0013 J	--	0.02	--	< 0.001	--	0.00029 J	--	< 0.004	--	0.00051 J	--	< 0.8	0.0019 J	--	1.7	--	--	0.0043	0.28	0.0011	2.2
MW-56	11/16/2021	FC-CCR-MW56-1121	< 0.002 U	0.0018	--	0.018	--	< 0.001	--	0.00020	--	0.0017 J	--	0.00062 J	--	< 0.8	< 0.001	--	1.8	--	--	0.0045	0.39	0.0011	3.1
MW-56	2/8/2022	FC-CCR-MW56-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.25	--	< 0.8	--	--	0.67	--	--	0.001	--	--	--
MW-56	8/11/2022	FC-CCR-MW56-0822	--	--	--	--	--	< 0.001	--	--	--	--	--	0.00081	--	< 0.8	--	--	1.8	--	--	0.0043	--	--	--
MW-56	11/15/2022	FC-CCR-MW56-1122	< 0.001	< 0.001	--	0.019	--	< 0.001	--	0.00022	--	< 0.002	--	< 0.001	--	< 8	< 0.0005	--	1.9	--	--	0.0050	0.30	0.0011	3.7
MW-57	3/12/2014	FC-57-031214	--	0.0010	--	--	--	--	--	--	--	0.0016	--	--	--	< 0.80	--	--	--	--	--	--	0.0010	--	--
MW-57	9/9/2014	FCPP-57MS-090914	--	0.0012	--	--	--	--	--	--	--	< 0.00050	--	--	--	--	--	--	--	--	--	--	0.00060	--	--
MW-57	9/9/2014	FCPP-57-090914	--	0.0012	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	0.00061	--	--
MW-57	3/17/2015	FCPP-57-031715	--	0.0011	--	--	--	--	--	--	--	< 0.00050	--	--	--	< 0.40	--	--	--	--	--	--	0.00072	--	--
MW-57	6/29/2015	MW-57	--	< 0.0030	--	--	--	--	--	--	--	< 0.0030	--	--	--	< 0.80	--	--	--	--	--	--	< 0.0030	--	--
MW-57	8/26/2015	FCPP-57-082615	--	< 0.0060	--	--	--	--	--	--	--	< 0.0060	--	--	--	< 0.80	--	--	--	--	--	--	< 0.0060	--	--
MW-57	11/10/2015	FC MW-57-(101115)-MSD	< 0.0025	< 0.0010	--	0.021	--	< 0.0010	--	< 0.00050	--	0.023	--	0.0038	--	--	< 0.00050	--	< 0.50	< 0.00020	--	0.0044	< 0.0030	< 0.00050	--
MW-57	11/10/2015	FC MW-57-(101115)-MS	< 0.0025	< 0.0010	--	0.021	--	< 0.0010	--	< 0.00050	--	< 0.0025	--	0.0046	--	--	< 0.00050	--	0.51	< 0.00020	--	0.0050	< 0.0030	< 0.00050	--
MW-57	11/10/2015	FC MW-57-(101115)	< 0.0025	0.0010	--	0.022	--	< 0.0010	--	< 0.00050	--	0.0041	--	0.0051	--	< 0.80	0.00053	--	0.54	< 0.00020	--	0.0059	< 0.0030	0.00060	--
MW-57	11/11/2015	*DUP* FC FD-4-(101115)	< 0.0025	< 0.0010	--	0.021	--	< 0.0010	--	< 0.00050	--	< 0.0025	--	0.0043	--	--	< 0.00050	--	< 0.50	< 0.00020	--	0.0046	< 0.0030	< 0.00050	--
MW-57	6/18/2016	FC-Seep-MW57-616	--	0.00050	--	--	--	--	--	--	--	< 0.0005	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-57	9/15/2016	FC-Seep-MW57-916	--	< 0.0010	--	--	--	--	--	--	--	< 0.0025	--	--	--	< 0.40	--	--	--	< 0.00020	--	--	--	--	--
MW-57	3/19/2019	FC-CCR-MW57-031919	< 0.0010	< 0.00050	--	0.018	--	< 0.0010	--	< 0.00010	--	< 0.0010	--	0.0021	--	< 0.40	< 0.00050	--	0.66	< 0.00020	--	0.011	< 0.00050	< 0.00010	--
MW-57	3/19/2019	FC-CCR-MW57-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3
MW-57	5/14/2019	FC-CCR-MW57-51419	--	0.0017	--	0.018	--	--	--	< 0.00010	--	--	--	0.0039	--	< 0.80	< 0.00050	--	0.76	--	--	0.15	0.00054	< 0.00010	--
MW-57	5/14/2019	FC-CCR-MW57-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-57	11/19/2019	FC-CCR-MW57-111919	< 0.0010	< 0.0010	--	0.017	--	< 0.0010	--	0.00020	--	< 0.0010	--	0.0024	--	< 0.80	< 0.00050	--	0.70	< 0.00020	--	0.0067	< 0.00050	< 0.00010	--
MW-57	6/22/2020	FC-CCR-MW57-0620	< 0.004	< 0.002	--	0.016	--	--	--	< 0.0004	--	< 0.004	--	0.0020	--	< 0.8	< 0.002	--	0.97	--	--	0.0064	< 0.002	< 0.0004	2.4
MW-57	11/6/2020	FC-CCR-MW57-1120	0.00022	0.0012	--	0.02	--	< 0.001	--	0.00081	--	0.0020	--	0.0043	--	< 0.4	< 0.002	--	0.87	--	--	0.027	0.0030	0.00018	2.2
MW-57	4/27/2021	FC-CCR-MW57-0421	< 0.004 U	< 0.002	--	0.018	--	0.00013 J	--	0.00012 J	--	< 0.004	--	0.0019 J	--	< 0.4	0.0019 J	--	0.77	--	--	0.006	0.0033	< 0.0004 U	2.7
MW-57	11/17/2021	FC-CCR-MW57-1121	0.00041 J	0.0014	--	0.018	--	< 0.001	--	0.000078 J	--	0.0015 J	--	0.0035	--	0.19 J	< 0.0005	--	0.81	--	--	0.0028	0.0015	0.000068 J	1.4
MW-57	2/8/2022	FC-CCR-MW57-0222	--	--	--	--	--	< 0.001	--	--	--	--	--	0.0038	--	0.25	--	--	0.90	--	--	0.012	--	--	--
MW-57	5/24/2022	FC-CCR-MW57-0522	< 0.002	< 0.001	--	0.017	--	< 0.001	--	< 0.0002	--	< 0.002	--	0.0029	--	< 0.8	< 0.001	--	0.8	--	--	0.0058	0.0020	< 0.0004	1.5
MW-57	5/24/2022	FC-CCR-SS09-0522	< 0.02	< 0.01	--	0.0164 J	--	< 0.0025	--	< 0.0025	--	< 0.02	--	0.00362	--	< 50 / 0.19 J	< 0.005	--	0.809	--	--	0.0054	< 0.0025	< 0.005	--
MW-57	8/11/2022	FC-CCR-MW57-0822	--	--	--	--	--	< 0.001	--	--	--	--	--	< 0.0005	--	< 0.8	--	--	0.94	--	--	0.0015	--	--	--
MW-57	11/15/2022	FC-CCR-MW571122	< 0.002	0.006	--	0.018	--	< 0.001	--	< 0.0002	--	< 0.002	--	< 0.001	--	< 4	< 0.0005	--	0.51 J	--	--	0.0024	0.0018	< 0.0001	1.4
MW-60	11/8/2015	FC-CCR-MW60-110815	0.00043	0.0011	--	0.037	--	0.0002	--	0.0012	--	0.0033	--	0.24	--	4.5	0.0038	--	0.60	< 0.00020	--	0.078	0.0028	0.00011	--
MW-60	11/8/2015	FC-CCR-MW60-110815	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	4/26/2016	FC-CCR-MW-60-042616	< 0.0025	0.0011	--	0.021	--	< 0.0010	--	0.0018	--	0.0011	--	0.16	--	2.7	0.0018	--	0.78	< 0.00020	--	0.049	0.0011	0.00020	< 0.8
MW-60	6/6/2016	FC-CCR-MW60-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8
MW-60	6/6/2016	FC-CCR-MW60-616	0.00016	0.00099	--	0.024	--	< 0.0010	--	0.00055	--	0.0014	--	0.14	--	2.4	0.0021	--	0.76	< 0.00020	--	0.041	0.00067	0.00012	--
MW-60	8/21/2016	FC-CCR-MW60-816	--	--	--	--	--	--	--	--	--	--	--	--	--	6.5	--	--	--	--	--	--	--	--	--
MW-60	8/21/2016	FC-CCR-MW60-816	0.00023	0.00072	--	0.018	--	< 0.0010	--	0.0016	--	0.0023	--	0.29	--	15	0.00060	--	0.90	< 0.00020	--	0.16	0.0011	0.00025	--
MW-60	8/21/2016	FC-CCR-MW60-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-60	9/13/2016	FC-CCR-MW60-916	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2	--	--	--	--	--	--	--	--	--
MW-60	9/13/2016	FC-CCR-MW60-916	< 0.0025	< 0.0010	--	0.019	--	< 0.0010	--	0.0021	--	< 0.0025	--	0.32	--	6.2	0.0014	--	0.76	< 0.00020	--	0.16	< 0.0030	< 0.00050	--
MW-60	9/13/2016	FC-CCR-MW60-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
MW-60	9/13/2016	FC-CCR-MW100-916	--	--	--	--	--	--	--	--	--	--	--	--	--	6.0	--	--	--	--	--	--	--	--	--
MW-60	9/13/2016	FC-CCR-MW100-916	< 0.0025	< 0.0010	--	0.020	--	< 0.0010	--	0.0022	--	< 0.0025	--	0.33	--	6.4	0.0015	--	0.77	< 0.00020	--	0.17	< 0.0030	< 0.00050	--
MW-60	9/13/2016	FC-CCR-MW100-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6
MW-60	10/20/2016	FC-CCR-MW60-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	10/20/2016	FC-CCR-MW60-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0
MW-60	10/20/2016	FC-CCR-MW60-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	5.5	--	--	--	--	--	--	--	--	--
MW-60	2/2/2017	FC-CCR-MW60-117	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2	--	--	--	--	--	--	--	--	--
MW-60	2/2/2017	FC-CCR-MW60-117	< 0.0010	0.00060	--	0.018	--	< 0.0010	--	0.0016	--	0.0021	--	0.29	--	7.2	0.00086	--	0.82	< 0.00020	--	0.18	0.00084	0.00025	--
MW-60	2/2/2017	FC-CCR-MW60-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4
MW-60	4/18/2017	FC-CCR-MW60-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	6.4	--	--	--	--	--	--	--	--	--
MW-60	4/18/2017	FC-CCR-MW60-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2
MW-60	4/18/2017	FC-CCR-MW60-41817	< 0.0040	< 0.0020	--	0.017	--	< 0.0010	--	0.00086	--	0.0040	--	0.28	--	6.5	< 0.0020	--	0.84	< 0.00020	--	0.17	< 0.0020	< 0.00040	--
MW-60	5/3/2017	FC-CCR-MW60-5317	< 0.0010	0.00056	--	0.017	--	< 0.0010	--	0.00070	--	0.0025	--	0.27	--	10	< 0.00050	--	0.75	< 0.00020	--	0.17	0.00078	0.00024	--
MW-60	5/3/2017	FC-CCR-MW60-5317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6
MW-60	5/30/2017	FC-CCR-MW60-53017	< 0.0010	0.00076	--	0.017	--	< 0.0010	--	0.00070	--	0.0023	--	0.28	--	7.0	< 0.00050	--	0.74	< 0.00020	--	0.17	0.00051	0.00024	--
MW-60	5/30/2017	FC-CCR-MW60-53017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2
MW-60	6/22/2017	FC-CCR-MW60-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	6/22/2017	FC-CCR-MW60-62217	< 0.0010	0.00072	--	0.017	--	< 0.0010	--	0.00060	--	0.0027	--	0.29	--	7.1	< 0.00050	--	0.78	< 0.00020	--	0.17	0.00084	0.00025	--
MW-60	6/22/2017	FC-CCR-MW60-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4
MW-60	7/22/2017	FC-CCR-MW60-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	7.0	--	--	--	--	--	--	--	--	--
MW-60	7/22/2017	FC-CCR-MW60-72217	< 0.0040	< 0.0020	--	0.016	--	< 0.0010	--	< 0.00040	--	< 0.0020	--	0.24	--	--	< 0.0020	--	0.82	< 0.00020	--	0.15	< 0.0020	< 0.00040	--
MW-60	7/22/2017	FC-CCR-MW60-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8
MW-60	8/10/2017	FC-CCR-MW60-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	8/10/2017	FC-CCR-MW60-81017	< 0.0010	0.00055	--	0.018	--	< 0.0010	--	0.00064	--	0.0026	--	0.28	--	7.1	< 0.00050	--	0.85	< 0.00020	--	0.17	0.00082	0.00021	--
MW-60	8/10/2017	FC-CCR-MW60-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-60	8/17/2017	FC-CCR-MW60-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-60	8/17/2017	FC-CCR-MW60-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	7.4	--	--	--	--	--	--	--	--	--
MW-60	9/10/2017	FC-CCR-MW60-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	9/10/2017	FC-CCR-MW60-91017	< 0.0040	< 0.0020	--	0.017	--	< 0.0010	--	0.00097	--	< 0.0040	--	0.29	--	7.4	< 0.0020	--	0.76	< 0.00020	--	0.16	< 0.0020	< 0.00040	--
MW-60	9/10/2017	FC-CCR-MW60-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5
MW-60	10/12/2017	FC-CCR-MW60-101217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6
MW-60	10/12/2017	FC-CCR-MW60-101217	< 0.0040	< 0.0050	--	0.017	--	< 0.0010	--	0.0016	--	< 0.010	--	0.36	--	7.0	< 0.0050	--	0.75	< 0.00020	--	0.15	< 0.0020	< 0.00040	--
MW-60	6/21/2020	FC-CCR-MW60-0620	--	--	--	--	--	--	--	--	--	--	--	0.24	--	--	--	--	--	--	--	0.18	--	--	--
MW-60	11/8/2020	FC-CCR-MW60-1120	--	--	--	--	--	--	--	--	--	--	--	0.26	--	--	--	--	--	--	--	0.20	--	--	--
MW-60	4/24/2021	FC-CCR-MW60-0421	--	--	--	--	--	--	--	--	--	--	--	0.21	--	--	--	--	--	--	--	0.16	--	--	--
MW-60	11/13/2021	FC-CCR-MW60	--	--	--	--	--	--	--	--	--	--	--	0.25	--	--	--	--	--	--	--	0.19	--	--	--
MW-60	5/23/2022	FC-CCR-MW60-0522	--	--	--	--	--	--	--	--	--	--	--	0.20	--	--	--	--	--	--	--	0.15	--	--	--
MW-60	11/10/2022	FC-CCR-MW60-1122	--	--	--	--	--	--	--	--	--	--	--	0.23	--	--	--	--	--	--	--	0.19	--	--	--
MW-61	11/6/2015	FC-CCR-MW61-110615	0.00029	0.00056	--	0.016	--	0.0002	--	0.0010	--	0.00075	--	0.011	--	1.2	0.00082	--	0.36	< 0.00020	--	0.076	0.0016	0.00018	--
MW-61	11/6/2015	FC-CCR-MW61-110615	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	11/6/2015	*DUP* FC-CCR-FD-1-110615	0.00032	0.00062	--	0.016	--	0.0002	--	0.00099	--	0.00028	--	0.011	--	1.2	0.00085	--	0.37	< 0.00020	--	0.084	0.0017	0.00019	--
MW-61	11/6/2015	*DUP* FC-CCR-FD-1-110615	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	4/26/2016	FC-CCR-MW-61-042616	< 0.0025	< 0.00050	--	0.014	--	< 0.0010	--	0.00082	--	< 0.00050	--	0.010	--	1.3	0.00078	--	0.40	< 0.00020	--	0.076	0.00088	0.00013	1.7
MW-61	6/6/2016	FC-CCR-MW61-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8
MW-61	6/6/2016	FC-CCR-MW61-616	0.00023	< 0.00050	--	0.015	--	< 0.0010	--	0.00094	--	< 0.00050	--	0.012	--	1.2	0.00080	--	0.39	< 0.00020	--	0.077	0.00096	0.00014	--

Additional Analyses

Well	Date	Sample ID	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Iron	Magnesium	Magnesium	Manganese	Potassium	Potassium	Radium 226	Radium 228	Selenium	Sodium	Sodium
		Filtered:	N	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	Y
		Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
		Multiunit 1 BTV	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--
		Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36R	4/25/2021	FC-CCR-MW36R-0421	230	< 6	< 6	230	< 6	0.072 J	430	--	0.25	29	--	--	--	--	990	--
MW-36R	11/14/2021	FC-CCR-MW36R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36R	2/9/2022	FC-CCR-MW36R-0222	230	< 6	< 6	230	< 6	0.27	2,500	--	--	90	--	--	--	--	6,200	--
MW-36R	5/25/2022	FC-CCR-MW36R-0522	220	< 6	< 6	220	< 6	< 0.1	400	--	0.15	25	--	--	--	--	1,100	--
MW-36R	8/11/2022	FC-CCR-MW36R-0822	220	< 6	< 6	220	< 6	0.14	400	--	--	23	--	--	--	--	960	--
MW-36R	11/11/2022	FC-CCR-MW36R-1122	220	< 6	< 6	220	< 6	< 0.1	420	--	< 0.26 U	26	--	--	--	--	1,000	--
MW-38R	3/12/2014	FC-38R-031214	430	< 6.0	< 6.0	430	< 6.0	--	1,200	--	--	35	--	--	--	--	3,200	--
MW-38R	9/11/2014	FCPP-38R-91114	540	< 6.0	< 6.0	540	< 6.0	--	2,000	--	--	50	--	--	--	--	5,600	--
MW-38R	3/19/2015	FCPP-38R-031915	490	< 6.0	< 6.0	490	< 6.0	--	1,700	--	--	51	--	--	--	--	4,900	--
MW-38R	6/30/2015	MW-38R	270	< 6.0	< 6.0	270	< 6.0	--	770	--	--	30	--	--	--	--	3,000	--
MW-38R	8/29/2015	FCPP-38R-082915	240	< 6.0	< 6.0	240	< 6.0	--	650	--	--	26	--	--	--	--	2,500	--
MW-38R	11/10/2015	FC MW-38R-(101115)	370	< 6.0	< 6.0	370	< 6.0	--	1,400	--	--	51	--	--	--	--	4,300	--
MW-38R	6/21/2016	FC-SEEPS-MW-38R-DUP 06211	270	< 6.0	< 6.0	270	< 6.0	--	690	--	--	33	--	--	--	--	2,500	--
MW-38R	6/21/2016	FC-SEEPS-MW-38R-062116	310	< 6.0	< 6.0	310	< 6.0	--	760	--	--	39	--	--	--	--	2,700	--
MW-38R	9/15/2016	FC-Seep-MW38R-916	240	< 6.0	< 6.0	240	< 6.0	--	690	--	--	36	--	--	--	--	2,800	--
MW-38R	9/15/2016	FC-Seep-MW106-916	260	< 6.0	< 6.0	260	< 6.0	--	670	--	--	34	--	--	--	--	2,500	--
MW-38R	3/19/2019	FC-CCR-MW38R-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-38R	3/19/2019	FC-CCR-MW38R-031919	--	--	--	--	--	--	--	--	--	--	--	< 0.5	0.8	--	--	--
MW-38R	5/14/2019	FC-CCR-MW38R-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-38R	5/14/2019	FC-CCR-MW38R-51419	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-38R	11/19/2019	FC-CCR-MW38R-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-38R	11/19/2019	*DUP* FC-CCR-FD01-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-38R	6/22/2020	FC-CCR-MW38R-0620	120	< 6	< 6	120	< 6	--	290	--	--	20	--	0.4	< 0.8	--	920	--
MW-38R	6/22/2020	*DUP* FC-CCR-FD05-0620	130	< 6	< 6	130	< 6	--	300	--	--	19	--	< 0.4	1.1	--	910	--
MW-38R	11/6/2020	FC-CCR-MW38R-1120	120	< 6	< 6	120	< 6	--	300	--	--	16 / 18	--	< 0.4	< 0.8	--	970	--
MW-38R	4/27/2021	FC-CCR-MW384R-0421	130	< 6	< 6	130	< 6	0.08 J	310	--	< 0.01	20	--	<0.4	<0.8	--	970	--
MW-38R	11/16/2021	FC-CCR-MW38R-1121	120	< 6	< 6	120	< 6	0.078 J	280	--	0.0027 J	17	--	0.4	< 0.6	--	920	--
MW-38R	2/9/2022	FC-CCR-MW38R-0222	130	< 6	< 6	130	< 6	0.093	290	--	--	17	--	--	--	--	920	--
MW-38R	5/25/2022	FC-CCR-MW38R-0522	130	< 6	< 6	130	< 6	0.64	270	--	0.02	18	--	<0.3	<0.6	--	1,000	--
MW-38R	8/11/2022	FC-CCR-MW38R-0822	140	< 6	< 6	140	< 6	0.23	330	--	--	18	--	--	--	--	1,100	--
MW-38R	11/15/2022	FC-CCR-MW38R-1122	180	< 6	< 6	180	< 6	0.24	500	--	< 0.01	23	--	< 0.3	< 0.6	--	1,500	--
MW-40R	2/2/2017	FC-CCR-MW40R-117	360	< 6.0	< 6.0	360	< 6.0	--	1,100	--	--	60	--	--	--	--	3,400	--
MW-40R	2/2/2017	FC-CCR-MW40R-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-40R	2/2/2017	FC-CCR-MW40R-117	--	--	--	--	--	--	--	--	--	--	--	< 0.2	0.6	--	--	--
MW-40R	4/26/2021	FC-CCR-MW40R-0421	--	--	--	--	--	10	2,000		3.0	97		<0.4	2.2		5,600	--
MW-46	6/30/2015	MW-46	600	< 6.0	< 6.0	600	< 6.0	--	720	--	--	37	--	--	--	--	8,000	--
MW-46	11/7/2015	FC MW-46-(07115)	590	< 6.0	< 6.0	590	< 6.0	--	850	--	--	38	--	--	--	--	8,500	--
MW-52	3/17/2015	FCPP-MSD02-031715	130	< 6.0	< 6.0	130	< 6.0	--	600	--	--	27	--	--	--	--	1,100	--
MW-52	3/17/2015	FCPP-52-031715	120	< 6.0	< 6.0	120	< 6.0	--	590	--	--	28	--	--	--	--	1,100	--
MW-52	8/26/2015	FCPP-52-082615	130	< 6.0	< 6.0	130	< 6.0	--	540	--	--	31	--	--	--	--	1,100	--
MW-52	11/3/2015	FC MW-52-(031115)	130	< 6.0	< 6.0	130	< 6.0	--	620	--	--	28	--	--	--	--	1,100	--
MW-52	6/18/2016	FC-Seep-MW52-616	130	< 6.0	< 6.0	130	< 6.0	--	580	--	--	29	--	--	--	--	1,100	--
MW-52	9/16/2016	FC-Seep-MW52-916	120	< 6.0	< 6.0	120	< 6.0	--	540	--	--	28	--	--	--	--	1,000	--
MW-52	6/20/2020	FC-CCR-MW52-0620	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52	11/8/2020	FC-CCR-MW52-1120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52	4/23/2021	FC-CCR-MW52-0421	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52	11/13/2021	FC-CCR-MW52-1121	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52	11/13/2021	FC-CCR-FD03-1121	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52	5/22/2022	FC-CCR-MW52-0522	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52	5/22/2022	*DUP* FC-CCR-FD03-0522	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52	11/10/2022	FC-CCR-MW52-1122	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52	11/10/2022	*DUP* FC-CCR-FD03-1122	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-54	9/10/2014	FCPP-54-091014	590	< 6.0	< 6.0	590	< 6.0	--	3,500	--	--	92	--	--	--	--	12,000	--
MW-54	3/17/2015	FCPP-54-031715	530	< 6.0	< 6.0	530	< 6.0	--	1,500	--	--	42	--	--	--	--	5,000	--
MW-54	8/26/2015	FCPP-54-082615	520	< 6.0	< 6.0	520	< 6.0	--	1,600	--	--	53	--	--	--	--	4,800	--
MW-54	11/3/2015	FC MW-54-(031115)	510	< 6.0	< 6.0	510	< 6.0	--	3,200	--	--	84	--	--	--	--	9,600	--
MW-54	6/20/2016	FC-Seep-MW54-616	490	< 6.0	< 6.0	490	< 6.0	--	1,300	--	--	45	--	--	--	--	4,200	--
MW-54	9/16/2016	FC-Seep-MW54-916	390	< 6.0	< 6.0	390	< 6.0	--	1,200	--	--	44	--	--	--	--	3,800	--
MW-56	3/12/2014	FC-56-031214	570	< 6.0	< 6.0	570	< 6.0	--	1,700	--	--	61	--	--	--	--	3,700	--
MW-56	9/10/2014	FCPP-56-091014	470	< 6.0	< 6.0	470	< 6.0	--	1,400	--	--	52	--	--	--	--	3,100	--
MW-56	3/19/2015	FCPP-56-031915	670	< 6.0	< 6.0	670	< 6.0	--	2,000	--	--	64	--	--	--	--	4,600	--
MW-56	6/30/2015	MW-56	740	< 6.0	< 6.0	740	< 6.0	--	1,800	--	--	61	--	--	--	--	3,900	--
MW-56	8/25/2015	FCPP-56-082515	1,000	< 6.0	< 6.0	1,000	< 6.0	--	2,000	--	--	78	--	--	--	--	4,400	--
MW-56	11/5/2015	FC MW-56-(051115)	950	< 6.0	< 6.0	950	< 6.0	--	2,000	--	--	64	--	--	--	--	4,400	--
MW-56	6/18/2016	FC-Seep-MW56-616	710	< 6.0	< 6.0	710	< 6.0	--	1,600	--	--	61	--	--	--	--	3,800	--
MW-56	9/15/2016	FC-Seep-MW56-916	380	< 6.0	< 6.0	380	< 6.0	--	770	--	--	40	--	--	--	--	1,800	--
MW-56	3/20/2019	FC-CCR-MW56-032019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-56	3/20/2019	FC-CCR-MW56-032019	--	--	--	--	--	--	--	--	--	--	--	< 0.5	2.3	--	--	--
MW-56	5/14/2019	FC-CCR-MW56-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-56	5/14/2019	FC-CCR-MW56-51419	--	--	--	--	--	--	--	--	--	--	--	< 0.5	2.7	--	--	--
MW-56	11/19/2019	FC-CCR-MW56-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-56	6/22/2020	FC-CCR-MW56-0620	--	--	--	--	--	--	--	--	--	--	--	1.2	2.2	--	--	--
MW-56	11/7/2020	FC-CCR-MW56-1120	750	< 6	< 6	750	< 6	--	2,200	--	--	83	--	< 0.4	2.2	--	4,900	--
MW-56	4/26/2021	FC-CCR-MW56-0421	800	< 6	< 6	800	< 6	0.26	2,500	--	0.016	100	--	<0.4	2.2	--	5,100	--
MW-56	11/16/2021	FC-CCR-MW56-1121	800	< 6	< 6	800	< 6	0.24	2,500	--	0.038	78	--	0.7	2.4	--	4,900	--
MW-56	2/8/2022	FC-CCR-MW56-0222	890	< 6	< 6	890	< 6	< 0.1 U	410	--	--	25	--	--	--	--	930	--
MW-56	8/11/2022	FC-CCR-MW56-0822	870	< 6	< 6	870	< 6	0.27	2,500	--	--	83	--	--	--	--	5,100	--
MW-56	11/15/2022	FC-CCR-MW56-1122	910	< 6	< 6	910	< 6	0.28	2,700	--	< 0.01	91	--	1.0	2.7	--	5,300	--
MW-57	3/12/2014	FC-57-031214	260	< 6.0	< 6.0	260	< 6.0	--	540	--	--	33	--	--	--	--	1,700	--
MW-57	9/9/2014	FCPP-57MS-090914	--	--	--	--	--	--	470	--	--	31	--	--	--	--	1,500	--
MW-57	9/9/2014	FCPP-57-090914	240	< 6.0	< 6.0	240	< 6.0	--	430	--	--	28	--	--	--	--	1,400	--
MW-57	3/17/2015	FCPP-57-031715	240	< 6.0	< 6.0	240	< 6.0	--	460	--	--	28	--	--	--	--	1,400	--
MW-57	6/29/2015	MW-57	230	< 6.0	< 6.0	230	< 6.0	--	450	--	--	28	--	--	--	--	1,400	--
MW-57	8/26/2015	FCPP-57-082615	240	< 6.0	< 6.0	240	< 6.0	--	460	--	--	35	--	--	--	--	1,500	--
MW-57	11/10/2015	FC MW-57-(101115)-MSD	250	< 6.0	< 6.0	250	< 6.0	--	550	--	--	34	--	--	--	--	1,600	--
MW-57	11/10/2015	FC MW-57-(101115)-MS	250	< 6.0	< 6.0	250	< 6.0	--	590	--	--	35	--	--	--	--	1,600	--
MW-57	11/10/2015	FC MW-57-(101115)	250	< 6.0	< 6.0	250	< 6.0	--	540	--	--	31	--	--	--	--	1,500	--
MW-57	11/11/2015	*DUP* FC FD-4-(101115)	250	< 6.0	< 6.0	250	< 6.0	--	540	--	--	32	--	--	--	--	1,500	--
MW-57	6/18/2016	FC-Seep-MW57-616	300	< 6.0	< 6.0	300	< 6.0	--	540	--	--	34	--	--	--	--	1,600	--
MW-57	9/15/2016	FC-Seep-MW57-916	200	< 6.0	< 6.0	200	< 6.0	--	430	--	--	26	--	--	--	--	1,300	--
MW-57	3/19/2019	FC-CCR-MW57-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-57	3/19/2019	FC-CCR-MW57-031919	--	--	--	--	--	--	--	--	--	--	--	< 0.5	1.3	--	--	--
MW-57	5/14/2019	FC-CCR-MW57-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-57	5/14/2019	FC-CCR-MW57-51419	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
MW-57	11/19/2019	FC-CCR-MW57-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-57	6/22/2020	FC-CCR-MW57-0620	400	< 6	< 6	400	< 6	--	700	--	--	46	--	0.7	1.7	--	1,900	--
MW-57	11/6/2020	FC-CCR-MW57-1120	510	< 6	< 6	510	< 6	--	840	--	--	47	--	< 0.4	2.2	--	2,400	--
MW-57	4/27/2021	FC-CCR-MW57-0421	440	< 6	< 6	440	< 6	0.62	810	--	0.17	52	--	0.5	2.2	--	2,000	--
MW-57	11/17/2021	FC-CCR-MW57-1121	410	< 6	< 6	410	< 6	1.4	860	--	0.28	45	--	0.7	0.7	--	1,900	--
MW-57	2/8/2022	FC-CCR-MW57-0222	500	< 6	< 6	500	< 6	0.63	820	--	--	47	--	--	--	--	2,200	--
MW-57	5/24/2022	FC-CCR-MW57-0522	430	< 6	< 6	430	< 6	0.51	730	--	0.26	41	--	<0.3	1.5	--	2,000	--
MW-57	5/24/2022	FC-CCR-SS09-0522	393	< 20	< 20	393	--	0.891 J	712	--	0.272 J	41.8	--	--	--	--	2,030	--
MW-57	8/11/2022	FC-CCR-MW57-0822	450	< 6	< 6	450	< 6	0.19	930	--	--	43	--	--	--	--	2,200	--
MW-57	11/15/2022	FC-CCR-MW571122	500	< 6	< 6	500	< 6	0.14	1,000	--	< 0.051 U	50	--	0.6	0.8	--	2,600	--
MW-60	11/8/2015	FC-CCR-MW60-110815	320	< 5.0	--	320	--	--	710	--	--	35	--	--	--	--	1,400	--
MW-60	11/8/2015	FC-CCR-MW60-110815	--	--	--	--	--	--	--	--	--	--	--	< 0.521	< 0.422	--	--	--
MW-60	4/26/2016	FC-CCR-MW-60-042616	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--	--
MW-60	6/6/2016	FC-CCR-MW60-616	--	--	--	--	--	--	--	--	--	--	--	0.8	< 0.8	--	--	--
MW-60	6/6/2016	FC-CCR-MW60-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	8/21/2016	FC-CCR-MW60-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	8/21/2016	FC-CCR-MW60-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	8/21/2016	FC-CCR-MW60-816	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.7	--	--	--
MW-60	9/13/2016	FC-CCR-MW60-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	9/13/2016	FC-CCR-MW60-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	9/13/2016	FC-CCR-MW60-916	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.0	--	--	--
MW-60	9/13/2016	FC-CCR-MW100-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	9/13/2016	FC-CCR-MW100-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	9/13/2016	FC-CCR-MW100-916	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.6	--	--	--
MW-60	10/20/2016	FC-CCR-MW60-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	10/20/2016	FC-CCR-MW60-1016	--	--	--	--	--	--	--	--	--	--	--	< 0.3	1.0	--	--	--
MW-60	10/20/2016	FC-CCR-MW60-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	2/2/2017	FC-CCR-MW60-117	120	< 6.0	< 6.0	120	< 6.0	--	500	--	--	28	--	--	--	--	1,100	--
MW-60	2/2/2017	FC-CCR-MW60-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	2/2/2017	FC-CCR-MW60-117	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.4	--	--	--
MW-60	4/18/2017	FC-CCR-MW60-41817	130	< 6.0	< 6.0	130	< 6.0	--	510	--	--	27	--	--	--	--	1,100	--
MW-60	4/18/2017	FC-CCR-MW60-41817	--	--	--	--	--	--	--	--	--	--	--	0.6	0.6	--	--	--
MW-60	4/18/2017	FC-CCR-MW60-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	5/3/2017	FC-CCR-MW60-5317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	5/3/2017	FC-CCR-MW60-5317	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-60	5/30/2017	FC-CCR-MW60-53017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	5/30/2017	FC-CCR-MW60-53017	--	--	--	--	--	--	--	--	--	--	--	< 0.4	1.2	--	--	--
MW-60	6/22/2017	FC-CCR-MW60-62217	130	< 6.0	< 6.0	130	< 6.0	--	510	--	--	27	--	--	--	--	1,100	--
MW-60	6/22/2017	FC-CCR-MW60-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	6/22/2017	FC-CCR-MW60-62217	--	--	--	--	--	--	--	--	--	--	--	0.5	0.9	--	--	--
MW-60	7/22/2017	FC-CCR-MW60-72217	130	< 6.0	< 6.0	130	< 6.0	--	540	--	--	28	--	--	--	--	1,200	--
MW-60	7/22/2017	FC-CCR-MW60-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	7/22/2017	FC-CCR-MW60-72217	--	--	--	--	--	--	--	--	--	--	--	< 0.3	0.8	--	--	--
MW-60	8/10/2017	FC-CCR-MW60-81017	130	< 6.0	< 6.0	130	< 6.0	--	540	--	--	28	--	--	--	--	1,200	--
MW-60	8/10/2017	FC-CCR-MW60-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	8/10/2017	FC-CCR-MW60-81017	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-60	8/17/2017	FC-CCR-MW60-81717	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-60	8/17/2017	FC-CCR-MW60-81717	130	< 6.0	< 6.0	130	< 6.0	--	560	--	--	32	--	--	--	--	1,200	--
MW-60	9/10/2017	FC-CCR-MW60-91017	130	< 6.0	< 6.0	130	< 6.0	--	520	--	--	26	--	--	--	--	1,100	--
MW-60	9/10/2017	FC-CCR-MW60-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	9/10/2017	FC-CCR-MW60-91017	--	--	--	--	--	--	--	--	--	--	--	< 0.7	0.8	--	--	--
MW-60	10/12/2017	FC-CCR-MW60-101217	--	--	--	--	--	--	--	--	--	--	--	0.5	1.1	--	--	--
MW-60	10/12/2017	FC-CCR-MW60-101217	130	< 6.0	< 6.0	130	< 6.0	--	480	--	--	26	--	--	--	--	1,100	--
MW-60	6/21/2020	FC-CCR-MW60-0620	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	11/8/2020	FC-CCR-MW60-1120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	4/24/2021	FC-CCR-MW60-0421	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	11/13/2021	FC-CCR-MW60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	5/23/2022	FC-CCR-MW60-0522	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60	11/10/2022	FC-CCR-MW60-1122	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	11/6/2015	FC-CCR-MW61-110615	64	34	--	98	--	--	110	--	--	18	--	--	--	--	1,000	--
MW-61	11/6/2015	FC-CCR-MW61-110615	--	--	--	--	--	--	--	--	--	--	--	0.288	1.01	--	--	--
MW-61	11/6/2015	*DUP* FC-CCR-FD-1-110615	59	44	--	100	--	--	110	--	--	19	--	--	--	--	1,100	--
MW-61	11/6/2015	*DUP* FC-CCR-FD-1-110615	--	--	--	--	--	--	--	--	--	--	--	0.622	0.665	--	--	--
MW-61	4/26/2016	FC-CCR-MW-61-042616	--	--	--	--	--	--	--	--	--	--	--	0.6	1.1	--	--	--
MW-61	6/6/2016	FC-CCR-MW61-616	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--	--
MW-61	6/6/2016	FC-CCR-MW61-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Groundwater Sampling Results for the Multiunit 1 Monitoring Wells

Appendix III Constituents

Well	Unit	Gradient	Date	Sample ID	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
				Filtered:	N	Y	N	Y	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L
				Multiunit 1 BTV	*3.95*	*3.95*	*454.1*	*454.1*	*604.7*	*2.1*	*6.52-7.88*	*6.52-7.88*	*22,000*	*34,397*
				Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW61-816	**38**	--	**470**	--	**300**	**1.2**	--	**8.5**	**3,400**	**5,700**
MW-61	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW61-816	--	--	--	--	--	**0.91**	--	--	--	--
MW-61	Multiunit 1	Downgradient	8/21/2016	FC-CCR-MW61-816	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW61-916	**40**	--	**480**	--	**330**	**1.3**	--	**8.6**	**3,500**	**5,700**
MW-61	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW61-916	--	--	--	--	--	**1.1**	--	--	--	--
MW-61	Multiunit 1	Downgradient	9/13/2016	FC-CCR-MW61-916	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	10/19/2016	FC-CCR-MW101-1016	**38**	--	**440**	--	**310**	**0.84**	--	**8.6**	**3,700**	**5,700**
MW-61	Multiunit 1	Downgradient	10/19/2016	FC-CCR-MW101-1016	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	10/20/2016	FC-CCR-MW61-1016	**37**	--	**420**	--	**300**	**0.95**	--	**8.6**	**3,500**	**5,600**
MW-61	Multiunit 1	Downgradient	10/20/2016	FC-CCR-MW61-1016	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW61-117	**37**	--	**470**	--	**300**	**1.2**	--	**8.6**	**3,500**	**5,300**
MW-61	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW61-117	--	--	--	--	--	**1.1**	--	--	--	--
MW-61	Multiunit 1	Downgradient	2/2/2017	FC-CCR-MW61-117	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW61-41817	**39**	--	**480**	--	**300**	**1.1**	--	**8.6**	**3,500**	**5,600**
MW-61	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW61-41817	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW61-41817	--	--	--	--	--	**1.1**	--	--	--	--
MW-61	Multiunit 1	Downgradient	5/3/2017	FC-CCR-MW61-5317	--	--	--	--	--	**2.8**	--	--	--	--
MW-61	Multiunit 1	Downgradient	5/3/2017	FC-CCR-MW61-5317	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	5/30/2017	FC-CCR-MW61-53017	--	--	--	--	--	**1.2**	--	--	--	--
MW-61	Multiunit 1	Downgradient	5/30/2017	FC-CCR-MW61-53017	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW61-62217	**38**	--	**480**	--	**310**	--	--	**8.6**	**3,700**	**5,400**
MW-61	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW61-62217	--	--	--	--	--	**1.3**	--	--	--	--
MW-61	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW61-62217	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW61-72217	**39**	--	**490**	--	**310**	**1.3**	--	**8.5**	**3,700**	**5,600**
MW-61	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW61-72217	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW61-72217	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW61-81017	**40**	--	**500**	--	**310**	--	--	**8.7**	**3,700**	**5,500**
MW-61	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW61-81017	--	--	--	--	--	**1.2**	--	--	--	--
MW-61	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW61-81017	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	8/17/2017	FC-CCR-MW61-81717	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	8/17/2017	FC-CCR-MW61-81717	**39**	--	**520**	--	**300**	**1.4**	--	**8.7**	**3,600**	**5,500**
MW-61	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW61-91017	**41**	--	**510**	--	**310**	--	--	**8.7**	**3,600**	**5,600**
MW-61	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW61-91017	--	--	--	--	--	**1.2**	--	--	--	--
MW-61	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW61-91017	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	10/12/2017	FC-CCR-MW61-101217	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	10/12/2017	FC-CCR-MW61-101217	**38**	--	**470**	--	**320**	**1.2**	--	**8.6**	**3,500**	**5,600**
MW-61	Multiunit 1	Downgradient	11/30/2017	FC-CCR-MW61-113017	**39**	--	**520**	--	**310**	**1.2**	--	**8.5**	**3,500**	**5,500**
MW-61	Multiunit 1	Downgradient	3/17/2018	FC-CCR-MW61-31718	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	6/1/2018	FC-CCR-MW-61-6118	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	6/1/2018	FC-CCR-MW-61-6118	**38**	--	**470**	--	**330**	**1.3**	--	**8.5**	**3,500**	**5,600**
MW-61	Multiunit 1	Downgradient	6/1/2018	*DUP* FC-CCR-FD01-6118	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	6/1/2018	*DUP* FC-CCR-FD01-6118	**39**	--	**480**	--	**330**	**1.3**	--	**8.5**	**3,500**	**5,400**
MW-61	Multiunit 1	Downgradient	11/3/2018	FC-CCR-MW61-11318	**37**	--	**470**	--	**340**	**1.3**	--	**8.6**	**3,600**	**5,300**
MW-61	Multiunit 1	Downgradient	11/3/2018	FC-CCR-MW61-11318	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	11/3/2018	FC-CCR-MW61-11318	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW61-031919	--	--	--	--	--	**1.1**	--	--	--	--
MW-61	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW61-031919	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	5/13/2019	FC-CCR-MW61-51319	**39**	--	**500**	--	**310**	**0.56**	--	**8.6 J**	**3,500**	**5,600**
MW-61	Multiunit 1	Downgradient	5/13/2019	FC-CCR-MW61-51319	--	--	--	--	--	--	--	--	--	--
MW-61	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW61-111919	**39**	--	**500**	--	**320**	**1.4**	--	**8.6 J**	**3,500**	**5,200**
MW-61	Multiunit 1	Downgradient	6/21/2020	FC-CCR-MW61-0620	**41**	--	**540**	--	**310**	**1.2**	**8.21**	**8.6 J**	**3,500**	**5,700**
MW-61	Multiunit 1	Downgradient	11/8/2020	FC-CCR-MW61-1120	**41**	--	**540**	--	**340 J**	**1.3**	**8.63**	**8.6 J**	**3,700**	**5,100**
MW-61	Multiunit 1	Downgradient	4/23/2021	FC-CCR-MW61-0421	**40**	--	**520**	--	**330**	**1.1**	**9.64**	**8.7 J**	**3,600**	**6,500**
MW-61	Multiunit 1	Downgradient	11/13/2021	FC-CCR-MW61-1121	**41**	--	**520**	--	**420**	**1.1**	**8.45**	**8.3 J**	**4,000**	**4,500**
MW-61	Multiunit 1	Downgradient	5/22/2022	FC-CCR-MW61-0522	**39**	--	**480**	--	**340**	**1.3**	**8.34**	**8.46 J**	**3,800**	**5,300**
MW-61	Multiunit 1	Downgradient	11/11/2022	FC-CCR-MW61-1122	**41**	--	**540**	--	**340**	**1.3**	**8.58**	**8.6 J**	**3,700**	**5,900**
MW-75	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW-75-41817	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW75-41817	**24**	--	**410**	--	**280**	< 2.0	--	**8.3**	**4,400**	**6,100**
MW-75	Multiunit 1	Downgradient	4/18/2017	FC-CCR-MW75-41817	--	--	--	--	--	< 2.0	--	--	--	--
MW-75	Multiunit 1	Downgradient	5/3/2017	FC-CCR-MW-75-5317	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	5/3/2017	FC-CCR-MW75-5317	--	--	--	--	--	**2.8**	--	--	--	--
MW-75	Multiunit 1	Downgradient	5/30/2017	FC-CCR-MW-75-53017	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	5/30/2017	FC-CCR-MW75-53017	--	--	--	--	--	< 2.0	--	--	--	--
MW-75	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW75-62217	**25**	--	**450**	--	**300**	--	--	**8.3**	**4,300**	**6,500**
MW-75	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW75-62217	--	--	--	--	--	< 2.0	--	--	--	--
MW-75	Multiunit 1	Downgradient	6/22/2017	FC-CCR-MW-75-62117	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW75-72217	**25**	--	**460**	--	**300**	< 2.0	--	**8.3**	**4,500**	**6,700**
MW-75	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW75-72217	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	7/22/2017	FC-CCR-MW75-72217	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW75-81017	**25**	--	**460**	--	**300**	--	--	**8.4**	**5,200**	**6,600**
MW-75	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW75-81017	--	--	--	--	--	< 2.0	--	--	--	--
MW-75	Multiunit 1	Downgradient	8/10/2017	FC-CCR-MW75-81017	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	8/17/2017	FC-CCR-MW75-81717	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	8/17/2017	FC-CCR-MW75-81717	**25**	--	**490**	--	**300**	< 2.0	--	**8.4**	**4,600**	**6,400**
MW-75	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW75-91017	**24**	--	**470**	--	**300**	--	--	**8.4**	**4,500**	**6,500**
MW-75	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW75-91017	--	--	--	--	--	< 2.0	--	--	--	--
MW-75	Multiunit 1	Downgradient	9/10/2017	FC-CCR-MW75-91017	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	10/12/2017	FC-CCR-MW75-101217	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	10/12/2017	FC-CCR-MW75-101217	**24**	--	**430**	--	**310**	< 2.0	--	**8.4**	**4,400**	**6,600**
MW-75	Multiunit 1	Downgradient	11/30/2017	FC-CCR-MW75-113017	**26**	--	**490**	--	**300**	< 2.0	--	**8.3**	**4,400**	**6,500**
MW-75	Multiunit 1	Downgradient	11/30/2017	*DUP* FC-CCR-FD02-113017	**25**	--	**480**	--	**300**	< 2.0	--	**8.3**	**4,300**	**6,300**
MW-75	Multiunit 1	Downgradient	3/17/2018	FC-CCR-MW75-31718	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	6/1/2018	FC-CCR-MW-75-6118	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	6/1/2018	FC-CCR-MW-75-6118	**24**	--	**430**	--	**290**	**1.2**	--	**8.2**	**4,300**	**6,400**
MW-75	Multiunit 1	Downgradient	11/3/2018	FC-CCR-MW75-11318	**24**	--	**430**	--	**310**	**1.2**	--	**8.3**	**4,300**	**6,200**
MW-75	Multiunit 1	Downgradient	11/3/2018	FC-CCR-MW75-11318	--	--	--	--	--	**1.2**	--	--	--	--
MW-75	Multiunit 1	Downgradient	11/3/2018	FC-CCR-MW75-11318	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW75-031919	--	--	--	--	--	**1.1**	--	--	--	--
MW-75	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW75-031919	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	5/13/2019	FC-CCR-MW75-51319	**25**	--	**450**	--	**300**	**1.2**	--	**8.4 J**	**4,200**	**6,600**
MW-75	Multiunit 1	Downgradient	5/13/2019	FC-CCR-MW75-51319	--	--	--	--	--	--	--	--	--	--
MW-75	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW75-111919	**24**	--	**450**	--	**290**	**1.2**	--	**8.3 J**	**4,400**	**6,600**
MW-75	Multiunit 1	Downgradient	6/21/2020	FC-CCR-MW75-0620	**24**	--	**470**	--	**270**	**1.1**	**8.16**	**8.4 J**	**4,300**	**6,700**
MW-75	Multiunit 1	Downgradient	11/8/2020	FC-CCR-MW75-1120	**25**	--	**470**	--	**290**	**1.3**	**8.39**	**8.4 J**	**4,800**	**6,600**
MW-75	Multiunit 1	Downgradient	4/23/2021	FC-CCR-MW75-0421	**24**	--	**460**	--	**290**	**1.0**	**9.34**	**8.4 J**	**4,400**	**6,500**
MW-75	Multiunit 1	Downgradient	11/13/2021	FC-CCR-MW75-1121	**24**	--	**440**	--	**360**	**1.0**	**8.25**	**8.3 J**	**5,100**	**6,200**
MW-75	Multiunit 1	Downgradient	5/22/2022	FC-CCR-MW75-0522	**24**	--	**440**	--	**310**	**1.2**	**8.16**	**8.20 J**	**4,400**	**6,300**
MW-75	Multiunit 1	Downgradient	11/11/2022	FC-CCR-MW75-1122	**24**	--	**480**	--	**310**	**1.3**	**8.33**	**8.3 J**	**4,700**	**7,000**
MW-76	Multiunit 1	Downgradient	4/26/2021	FC-CCR-MW76-0421	**41**	--	**470**	--	**480**	**0.44 J**	**7.61**	**7.3 J**	**3,400**	**6,000**
MW-87	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW87-031919	--	--	--	--	--	< 0.80	--	--	--	--
MW-87	Multiunit 1	Downgradient	3/19/2019	FC-CCR-MW87-031919	--	--	--	--	--	--	--	--	--	--
MW-87	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW87-51419	**1.2**	--	**410**	--	**2,100**	< 0.80	--	**7.4 J**	**17,000**	**29,000**
MW-87	Multiunit 1	Downgradient	5/14/2019	FC-CCR-MW87-51419	--	--	--	--	--	--	--	--	--	--
MW-87	Multiunit 1	Downgradient	6/22/2019	FC-NIT-MW87-62219	**1.2**	--	**410**	--	**2,000**	< 0.80	--	--	**18,000**	**28,000**
MW-87	Multiunit 1	Downgradient	11/19/2019	FC-CCR-MW87-111919	**2.4**	--	**420**	--	**1,600**	< 0.80	--	**7.3 J**	**18,000**	**27,000**
MW-87	Multiunit 1	Downgradient	11/19/2019	*DUP* FC-CCR-FD02-111919	**2.4**	--	**440**	--	**1,700**	< 0.80	--	**7.4 J**	**18,000**	**26,000**
MW-87	Multiunit 1	Downgradient	6/23/2020	FC-CCR-MW87-0620	**1.4**	--	**440**	--	**2,200**	< 0.8	**6.87**	**7.7 J**	**19,000**	**30,000**
MW-87	Multiunit 1	Downgradient	11/6/2020	FC-CCR-MW87-1120	**1.2**	--	**480**	--	**2,400**	**0.56 J**	**7.01**	**7.4 J**	**23,000**	**38,000**
MW-87	Multiunit 1	Downgradient	4/27/2021	FC-CCR-MW87-0421	**1.4**	--	**490**	--	**2,700**	**0.42 J**	**7.92**	**7.6 J**	**25,000**	**34,000**
MW-87	Multiunit 1	Downgradient	11/17/2021	FC-CCR-MW87-1121	**1.6**	--	**520**	--	**4,100**	**0.17 J**	**7.02**	**7.7 J**	**34,000**	**40,000**
MW-87	Multiunit 1	Downgradient	11/17/2021	FC-CCR-FD04-1121	**1.6**	--	**520**	--	**4,100**	**0.16 J**	**7.02**	**7.7 J**	**34,000**	**40,000**
MW-87	Multiunit 1	Downgradient	2/8/2022	FC-CCR-MW87-0222	**1.5**	--	**490**	--	**3,000**	< 0.8	**6.97**	**7.6 J**	**31,000**	**190,000**
MW-87	Multiunit 1	Downgradient	5/24/2022	FC-CCR-MW87-0522	**1.5**	--	**450**	--	**3,300**	< 0.8	**7.00**	**7.75 J**	**31,000**	**36,000**
MW-87	Multiunit 1	Downgradient	5/24/2022	*DUP* FC-CCR-FD04-0522	**1.5**	--	**470**	--	**3,200**	< 0.8	**7.00**	**7.77 J**	**31,000**	**30,000**
MW-87	Multiunit 1	Downgradient	5/24/2022	FC-CCR-SS07-0522	**2.5 J**	--	**472**	--	**3,040**	< 125 / **0.51**	**7.00**	**8.0 J**	**31,900**	**50,100**
MW-87	Multiunit 1	Downgradient	8/11/2022	FC-CCR-MW87-0822	**1.4 J**	--	**480**	--	**3,600**	**2.2**	**7.00**	**7.3 J**	**36,000**	**54,000**
MW-87	Multiunit 1	Downgradient	8/11/2022	*DUP* FC-CCR-FD01-0822	**1.4**	--	**480**	--	**3,500**	< 2	**7.00**	**7.4 J**	**35,000**	**56,000**
MW-87	Multiunit 1	Downgradient	11/15/2022	FC-CCR-MW87-1122	**1.5**	--	**500**	--	**3,500**	< 8	**7.07**	**7.4 J**	**36,000**	**43000 J**
MW-50B	Multiunit 1	--	3/17/2015	FCPP-50B-031715	< 5.0	--	**310**	--	**4,400**	< 2.0	--	--	**3,900**	**4,900**

Appendix IV Constituents

Well	Date	Sample ID	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Mercury	Molybdenum	Selenium	Thallium	Total Radium
		Filtered:	N	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	Y	N	N	Y	N	N	N	N
		Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
		Multiunit 1 BTV	*0.01*	*0.0086*	*0.009*	*0.042*	*0.042*	*0.001*	*0.001*	*0.002*	*0.002*	*0.02*	*0.02*	*0.01*	*0.01*	*5*	*0.01*	*0.01*	*1.8*	*0.0002*	*0.0002*	*0.12*	*0.092*	*0.017*	*4.43*
		Multiunit 1 GWPS	*0.01*	*0.01*	*0.01*	*2*	*2*	*0.004*	*0.004*	*0.005*	*0.005*	*0.1*	*0.1*	*0.01*	*0.01*	*5*	*0.015*	*0.015*	*1.8*	*0.002*	*0.002*	*0.1*	*0.092*	*0.017*	*5*
MW-61	8/21/2016	FC-CCR-MW61-816	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.2**	--	--	--	--	--	--	--	--	--
MW-61	8/21/2016	FC-CCR-MW61-816	**0.00023**	**0.00058**	--	**0.015**	--	< 0.0010	--	**0.00091**	--	**0.00052**	--	**0.013**	--	**0.91**	**0.0010**	--	**0.44**	< 0.00020	--	**0.083**	**0.00091**	**0.00016**	--
MW-61	8/21/2016	FC-CCR-MW61-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1.4
MW-61	9/13/2016	FC-CCR-MW61-916	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	--	--
MW-61	9/13/2016	FC-CCR-MW61-916	< 0.0025	< 0.0010	--	**0.014**	--	< 0.0010	--	**0.00094**	--	< 0.0025	--	**0.013**	--	**1.1**	**0.00089**	--	**0.37**	< 0.00020	--	**0.069**	< 0.0030	< 0.00050	--
MW-61	9/13/2016	FC-CCR-MW61-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.3**
MW-61	10/19/2016	FC-CCR-MW101-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.84**	--	--	--	--	--	--	--	--	--
MW-61	10/19/2016	FC-CCR-MW101-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4
MW-61	10/20/2016	FC-CCR-MW61-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.95**	--	--	--	--	--	--	--	--	--
MW-61	10/20/2016	FC-CCR-MW61-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.7**
MW-61	2/2/2017	FC-CCR-MW61-117	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.2**	--	--	--	--	--	--	--	--	--
MW-61	2/2/2017	FC-CCR-MW61-117	< 0.0010	**0.00050**	--	**0.013**	--	< 0.0010	--	**0.0011**	--	< 0.00050	--	**0.013**	--	**1.1**	**0.00079**	--	**0.36**	< 0.00020	--	**0.072**	**0.00070**	**0.00015**	--
MW-61	2/2/2017	FC-CCR-MW61-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.2**
MW-61	4/18/2017	FC-CCR-MW61-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.1**	--	--	--	--	--	--	--	--	--
MW-61	4/18/2017	FC-CCR-MW61-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6
MW-61	4/18/2017	FC-CCR-MW61-41817	< 0.0040	< 0.0020	--	**0.014**	--	< 0.0010	--	**0.00093**	--	< 0.0020	--	**0.014**	--	**1.1**	< 0.0020	--	**0.37**	< 0.00020	--	**0.078**	< 0.0020	< 0.00040	--
MW-61	5/3/2017	FC-CCR-MW61-5317	< 0.0010	< 0.00050	--	**0.014**	--	< 0.0010	--	**0.00094**	--	**0.00062**	--	**0.014**	--	**2.8**	**0.00082**	--	**0.38**	< 0.00020	--	**0.075**	**0.00067**	**0.00015**	--
MW-61	5/3/2017	FC-CCR-MW61-5317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.7**
MW-61	5/30/2017	FC-CCR-MW61-53017	< 0.0010	< 0.00050	--	**0.014**	--	< 0.0010	--	**0.00092**	--	< 0.00050	--	**0.015**	--	**1.2**	**0.00089**	--	**0.36**	< 0.00020	--	**0.079**	< 0.00050	**0.00016**	--
MW-61	5/30/2017	FC-CCR-MW61-53017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6
MW-61	6/22/2017	FC-CCR-MW61-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	6/22/2017	FC-CCR-MW61-62217	< 0.0010	**0.00063**	--	**0.014**	--	< 0.0010	--	**0.00098**	--	**0.00052**	--	**0.015**	--	**1.3**	**0.00086**	--	**0.37**	< 0.00020	--	**0.079**	**0.00076**	**0.00016**	--
MW-61	6/22/2017	FC-CCR-MW61-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6
MW-61	7/22/2017	FC-CCR-MW61-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	--	--
MW-61	7/22/2017	FC-CCR-MW61-72217	< 0.0040	< 0.0020	--	**0.013**	--	< 0.0010	--	**0.00082**	--	< 0.0020	--	**0.013**	--	--	< 0.0020	--	**0.38**	< 0.00020	--	**0.070**	< 0.0020	< 0.00040	--
MW-61	7/22/2017	FC-CCR-MW61-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.5**
MW-61	8/10/2017	FC-CCR-MW61-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	8/10/2017	FC-CCR-MW61-81017	< 0.0010	< 0.00050	--	**0.014**	--	< 0.0010	--	**0.00092**	--	< 0.0010	--	**0.015**	--	**1.2**	**0.00083**	--	**0.40**	< 0.00020	--	**0.079**	**0.00066**	**0.00011**	--
MW-61	8/10/2017	FC-CCR-MW61-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-61	8/17/2017	FC-CCR-MW61-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-61	8/17/2017	FC-CCR-MW61-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	--	--
MW-61	9/10/2017	FC-CCR-MW61-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	9/10/2017	FC-CCR-MW61-91017	< 0.0040	< 0.0020	--	**0.013**	--	< 0.0010	--	**0.00087**	--	< 0.0040	--	**0.014**	--	**1.2**	< 0.0020	--	**0.37**	< 0.00020	--	**0.073**	< 0.0020	< 0.00040	--
MW-61	9/10/2017	FC-CCR-MW61-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.7**
MW-61	10/12/2017	FC-CCR-MW61-101217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.0**
MW-61	10/12/2017	FC-CCR-MW61-101217	< 0.0040	< 0.0050	--	**0.013**	--	< 0.0010	--	**0.00097**	--	< 0.010	--	**0.016**	--	**1.2**	< 0.0050	--	**0.35**	< 0.00020	--	**0.070**	< 0.0020	< 0.0010	--
MW-61	11/30/2017	FC-CCR-MW61-113017	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.2**	--	--	--	--	--	--	--	--	--
MW-61	3/17/2018	FC-CCR-MW61-31718	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.9
MW-61	6/1/2018	FC-CCR-MW-61-6118	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-61	6/1/2018	FC-CCR-MW-61-6118	--	< 0.010	--	**0.014**	--	--	--	< 0.0020	--	--	--	**0.017**	--	**1.3**	< 0.010	--	**0.36**	--	--	**0.085**	< 0.010	< 0.0020	--
MW-61	6/1/2018	*DUP* FC-CCR-FD01-6118	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-61	6/1/2018	*DUP* FC-CCR-FD01-6118	--	< 0.010	--	**0.014**	--	--	--	< 0.0020	--	--	--	**0.017**	--	**1.3**	< 0.010	--	**0.36**	--	--	**0.082**	< 0.010	< 0.0020	--
MW-61	11/3/2018	FC-CCR-MW61-11318	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	--	--
MW-61	11/3/2018	FC-CCR-MW61-11318	--	**0.00084**	--	**0.015**	--	--	--	**0.00088**	--	--	--	**0.018**	--	--	**0.00086**	--	**0.35**	--	--	**0.090**	**0.00061**	**0.00016**	--
MW-61	11/3/2018	FC-CCR-MW61-11318	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-61	3/19/2019	FC-CCR-MW61-031919	< 0.0010	**0.00054**	--	**0.016**	--	< 0.0010	--	**0.00093**	--	< 0.0010	--	**0.019**	--	**1.1**	**0.0012**	--	**0.37**	< 0.00020	--	**0.092**	**0.00072**	**0.00016**	--
MW-61	3/19/2019	FC-CCR-MW61-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-61	5/13/2019	FC-CCR-MW61-51319	--	< 0.00050	--	**0.015**	--	--	--	**0.0010**	--	--	--	**0.019**	--	**0.56**	**0.0012**	--	**0.39**	--	--	**0.089**	**0.00067**	**0.00016**	--
MW-61	5/13/2019	FC-CCR-MW61-51319	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-61	11/19/2019	FC-CCR-MW61-111919	< 0.0010	< 0.00050	--	**0.015**	--	< 0.0010	--	**0.00097**	--	< 0.0010	--	**0.021**	--	**1.4**	**0.00095**	--	**0.38**	< 0.00020	--	**0.098**	**0.00082**	**0.00020**	--
MW-61	6/21/2020	FC-CCR-MW61-0620	< 0.001	**0.00087**	--	**0.017**	--	--	--	**0.00089**	--	< 0.001	--	**0.021**	--	**1.2**	**0.00060**	--	**0.68**	--	--	**0.10**	**0.00056**	**0.00019**	**0.7**
MW-61	11/8/2020	FC-CCR-MW61-1120	< 0.001 U	**0.0018**	--	**0.012 J / 0.017**	--	< 0.001	--	**0.0011**	--	**0.00049 J**	--	**0.024**	--	**1.3**	**0.00093**	--	**0.42**	< 0.0002	--	**0.11**	**0.0028**	**0.00017**	< 0.8
MW-61	4/23/2021	FC-CCR-MW61-0421	< 0.001 U	< 0.0016 U	--	**0.017**	--	< 0.001	--	**0.00082**	--	< 0.001	--	**0.023**	--	**1.1**	**0.00084**	--	**0.42**	< 0.0002	--	**0.10**	< 0.00097 U	< 0.0001	**0.9**
MW-61	11/13/2021	FC-CCR-MW61-1121	**0.00026 J**	< 0.001	--	**0.020**	--	< 0.001	--	**0.0012**	--	< 0.002	--	**0.028**	--	**1.1**	**0.0013**	--	**0.48**	< 0.0002	--	**0.11**	**0.0020**	**0.00022**	**0.6**
MW-61	5/22/2022	FC-CCR-MW61-0522	< 0.001	**0.0011**	--	**0.018**	--	< 0.001	--	**0.0011**	--	< 0.001	--	**0.028**	--	**1.3**	**0.0010**	--	**0.46**	< 0.0002	--	**0.11**	< 0.001	< 0.0002	**0.4**
MW-61	11/11/2022	FC-CCR-MW61-1122	< 0.001	**0.00059**	--	**0.019**	--	< 0.001	--	**0.0011**	--	< 0.001	--	**0.030**	--	**1.3**	**0.0011**	--	**0.42**	< 0.0002	--	**0.11**	**0.00093**	**0.00022**	< 0.6
MW-75	4/18/2017	FC-CCR-MW-75-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.6**
MW-75	4/18/2017	FC-CCR-MW75-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
MW-75	4/18/2017	FC-CCR-MW75-41817	< 0.0040	< 0.0020	--	**0.020**	--	< 0.0010	--	**0.0022**	--	< 0.0020	--	**0.043**	--	< 2.0	**0.0031**	--	**0.43**	< 0.00020	--	**0.17**	**0.0021**	< 0.00040	--
MW-75	5/3/2017	FC-CCR-MW-75-5317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.4**
MW-75	5/3/2017	FC-CCR-MW75-5317	< 0.0010	< 0.0010	--	**0.018**	--	< 0.0010	--	**0.0019**	--	< 0.0010	--	**0.042**	--	**2.8**	**0.0031**	--	**0.43**	**0.00028**	--	**0.17**	**0.0022**	**0.00018**	--
MW-75	5/30/2017	FC-CCR-MW-75-53017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.9**
MW-75	5/30/2017	FC-CCR-MW75-53017	< 0.0010	< 0.00050	--	**0.017**	--	< 0.0010	--	**0.0019**	--	< 0.00050	--	**0.039**	--	< 2.0	**0.0028**	--	**0.43**	< 0.00020	--	**0.16**	**0.0025**	**0.00017**	--
MW-75	6/22/2017	FC-CCR-MW75-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	6/22/2017	FC-CCR-MW75-62217	< 0.0040	< 0.0020	--	**0.020**	--	< 0.0010	--	**0.0024**	--	< 0.0020	--	**0.048**	--	< 2.0	**0.0041**	--	**0.43**	< 0.00020	--	**0.18**	**0.0022**	< 0.00040	--
MW-75	6/22/2017	FC-CCR-MW-75-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6
MW-75	7/22/2017	FC-CCR-MW75-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
MW-75	7/22/2017	FC-CCR-MW75-72217	< 0.0040	< 0.0020	--	**0.018**	--	< 0.0010	--	**0.0020**	--	< 0.0020	--	**0.043**	--	--	**0.0030**	--	**0.44**	< 0.00020	--	**0.16**	**0.0026**	< 0.00040	--
MW-75	7/22/2017	FC-CCR-MW75-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-75	8/10/2017	FC-CCR-MW75-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	8/10/2017	FC-CCR-MW75-81017	< 0.010	< 0.0020	--	**0.019**	--	< 0.0010	--	**0.0023**	--	< 0.0040	--	**0.046**	--	< 2.0	< 0.0050	--	**0.45**	< 0.00020	--	**0.18**	**0.0025**	< 0.0010	--
MW-75	8/10/2017	FC-CCR-MW75-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.0**
MW-75	8/17/2017	FC-CCR-MW75-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-75	8/17/2017	FC-CCR-MW75-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
MW-75	9/10/2017	FC-CCR-MW75-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	9/10/2017	FC-CCR-MW75-91017	< 0.0040	< 0.0020	--	**0.018**	--	< 0.0010	--	**0.0020**	--	< 0.0040	--	**0.044**	--	< 2.0	**0.0032**	--	**0.42**	< 0.00020	--	**0.16**	**0.0023**	< 0.00040	--
MW-75	9/10/2017	FC-CCR-MW75-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.8**
MW-75	10/12/2017	FC-CCR-MW75-101217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.8**
MW-75	10/12/2017	FC-CCR-MW75-101217	< 0.010	< 0.0050	--	**0.020**	--	< 0.0010	--	**0.0023**	--	< 0.010	--	**0.049**	--	< 2.0	< 0.0050	--	**0.41**	< 0.00020	--	**0.18**	< 0.0050	< 0.0010	--
MW-75	11/30/2017	FC-CCR-MW75-113017	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
MW-75	11/30/2017	*DUP* FC-CCR-FD02-113017	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
MW-75	3/17/2018	FC-CCR-MW75-31718	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8
MW-75	6/1/2018	FC-CCR-MW-75-6118	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.4**
MW-75	6/1/2018	FC-CCR-MW-75-6118	--	< 0.010	--	**0.020**	--	--	--	**0.0024**	--	--	--	**0.048**	--	**1.2**	< 0.010	--	**0.40**	--	--	**0.17**	< 0.010	< 0.0020	--
MW-75	11/3/2018	FC-CCR-MW75-11318	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.2**	--	--	--	--	--	--	--	--	--
MW-75	11/3/2018	FC-CCR-MW75-11318	--	**0.00060**	--	**0.017**	--	--	--	**0.0018**	--	--	--	**0.045**	--	**1.2**	**0.0030**	--	**0.39**	--	--	**0.18**	**0.0026**	**0.00018**	--
MW-75	11/3/2018	FC-CCR-MW75-11318	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-75	3/19/2019	FC-CCR-MW75-031919	< 0.0010	< 0.00050	--	**0.019 J**	--	< 0.0010	--	**0.0018**	--	< 0.0010	--	**0.045**	--	**1.1**	**0.0030**	--	**0.40**	< 0.00020	--	**0.17**	**0.0026**	**0.00017**	--
MW-75	3/19/2019	FC-CCR-MW75-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-75	5/13/2019	FC-CCR-MW75-51319	--	< 0.00050	--	**0.019**	--	--	--	**0.0019**	--	--	--	**0.045**	--	**1.2**	**0.0030**	--	**0.43**	--	--	**0.18**	**0.0023**	**0.00018**	--
MW-75	5/13/2019	FC-CCR-MW75-51319	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-75	11/19/2019	FC-CCR-MW75-111919	< 0.0010	**0.00056**	--	**0.019**	--	< 0.0010	--	**0.0020**	--	< 0.0010	--	**0.045**	--	**1.2**	**0.0030**	--	**0.41**	< 0.00020	--	**0.19**	**0.0029**	**0.00022**	--
MW-75	6/21/2020	FC-CCR-MW75-0620	< 0.001	**0.00071**	--	**0.018**	--	--	--	**0.0017**	--	< 0.001	--	**0.047**	--	**1.1**	**0.0028**	--	**0.77**	--	--	**0.18**	**0.0030**	**0.00021**	**0.8**
MW-75	11/8/2020	FC-CCR-MW75-1120	< 0.001 U	< 0.0013 U	--	**0.013 J**	--	< 0.001	--	**0.0019**	--	**0.00072 J**	--	**0.047**	--	**1.3**	**0.0029**	--	**0.43**	< 0.0002	--	**0.19**	**0.0060**	**0.00020**	< 0.8
MW-75	4/23/2021	FC-CCR-MW75-0421	< 0.001 U	< 0.0016 U	--	**0.02**	--	< 0.001	--	**0.0018**	--	< 0.001	--	**0.045**	--	**1.0**	**0.0029**	--	**0.44**	< 0.0002	--	**0.18**	**0.0037**	< 0.0001 U	<0.8
MW-75	11/13/2021	FC-CCR-MW75-1121	**0.00013 J**	< 0.001	--	**0.028**	--	< 0.001	--	**0.0020**	--	< 0.002	--	**0.054**	--	**1.0**	**0.0036**	--	**0.47**	< 0.0002	--	**0.20**	**0.0042**	**0.00024**	**0.8**
MW-75	5/22/2022	FC-CCR-MW75-0522	< 0.001	**0.00075**	--	**0.020**	--	< 0.001	--	**0.0016**	--	< 0.001	--	**0.050**	--	**1.2**	**0.0026**	--	**0.47**	< 0.0002	--	**0.17**	**0.0030**	**0.00021**	**1.4**
MW-75	11/11/2022	FC-CCR-MW75-1122	< 0.001	**0.00051**	--	**0.021**	--	< 0.001	--	**0.0016**	--	< 0.001	--	**0.057**	--	**1.3**	**0.0031**	--	**0.42**	< 0.0002	--	**0.18**	**0.0044**	**0.00022**	**0.7**
MW-76	4/26/2021	FC-CCR-MW76-0421	< 0.001 U	< 0.0018 U	--	**0.021**	--	< 0.001	--	< 0.0001 U	--	**0.0017**	--	**0.015**	--	**0.44 J**	< 0.0005	--	**0.63**	< 0.0002	--	**0.095**	**0.0036**	< 0.0001 U	<0.8
MW-87	3/19/2019	FC-CCR-MW87-031919	**0.0037**	**0.0023**	--	**0.023**	--	< 0.0010	--	**0.00013**	--	< 0.0010	--	**0.032**	--	< 0.80	**0.00062**	--	**1.1**	< 0.00020	--	**0.12**	**0.090**	< 0.00010	--
MW-87	3/19/2019	FC-CCR-MW87-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.5**
MW-87	5/14/2019	FC-CCR-MW87-51419	--	**0.0026**	--	**0.015**	--	--	--	< 0.00010	--	--	--	**0.018**	--	< 0.80	< 0.00050	--	**1.3**	--	--	**0.10**	**0.033**	< 0.00010	--
MW-87	5/14/2019	FC-CCR-MW87-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.4**
MW-87	6/22/2019	FC-NIT-MW87-62219	**0.0033**	**0.0042**	--	**0.016**	--	< 0.0010	--	< 0.00010	--	< 0.0020	--	**0.018**	--	< 0.80	< 0.0020	--	**1.3**	< 0.00020	--	**0.13**	**0.0059**	< 0.00040	--
MW-87	11/19/2019	FC-CCR-MW87-111919	< 0.0010	**0.0028 J**	--	**0.015**	--	< 0.0010	--	**0.00024**	--	< 0.0010	--	**0.0037**	--	< 0.80	< 0.00050	--	**1.2**	< 0.00020	--	**0.030**	**0.015**	**0.00018**	--
MW-87	11/19/2019	*DUP* FC-CCR-FD02-111919	< 0.0010	**0.0014 J**	--	**0.015**	--	< 0.0010	--	**0.00024**	--	< 0.0010	--	**0.0036**	--	< 0.80	< 0.00050	--	**1.3**	< 0.00020	--	**0.028**	**0.018**	**0.00017**	--
MW-87	6/23/2020	FC-CCR-MW87-0620	**0.0021**	**0.0030**	--	**0.012**	--	--	--	**0.00032**	--	< 0.002	--	**0.010**	--	< 0.8	< 0.001	--	--	--	--	**0.069**	**0.0067**	< 0.0002	**2.8**
MW-87	11/6/2020	FC-CCR-MW87-1120	**0.0016 J**	**0.0048**	--	< 0.02 / **0.016**	--	< 0.001	--	**0.00023**	--	**0.012**	--	**0.014**	--	**0.56 J**	< 0.001	--	**1.7**	< 0.0002	--	**0.051**	**0.019**	**0.00014 J**	**3.7**
MW-87	4/27/2021	FC-CCR-MW87-0421	< 0.002 U	< 0.0024 U	--	**0.014**	--	< 0.001	--	< 0.0002 U	--	< 0.002	--	**0.0081**	--	**0.42 J**	< 0.002	--	**1.8**	< 0.0002	--	**0.056**	**0.011**	< 0.0004 U	<0.8
MW-87	11/17/2021	FC-CCR-MW87-1121	**0.0016 J**	**0.0024**	--	**0.014**	--	< 0.002	--	**0.00017 J**	--	**0.0021**	--	**0.0078**	--	**0.17 J**	**0.00080**	--	**2.7**	< 0.0002	--	**0.065**	**0.029**	**0.00016**	**0.6**
MW-87	11/17/2021	FC-CCR-FD04-1121	**0.0016 J**	**0.0032**	--	**0.014**	--	< 0.002	--	**0.00017 J**	--	**0.0023**	--	**0.0082**	--	**0.16 J**	**0.00081**	--	**2.7**	< 0.0002	--	**0.067**	**0.027**	**0.00016**	**0.7**
MW-87	2/8/2022	FC-CCR-MW87-0222	--	--	--	--	--	< 0.005	--	--	--	--	--	**0.0036**	--	< 0.8	--	--	**2.3**	--	--	**0.037**	--	--	--
MW-87	5/24/2022	FC-CCR-MW87-0522	**0.0014**	**0.0017**	--	**0.010**	--	< 0.002	--	**0.00017**	--	< 0.001	--	**0.0077**	--	< 0.8	< 0.0005	--	**2.5**	< 0.0002	--	**0.053**	**0.012**	< 0.0004	**3.9**
MW-87	5/24/2022	*DUP* FC-CCR-FD04-0522	**0.0014**	**0.0016**	--	**0.0097**	--	< 0.002	--	**0.00013**	--	**0.0011**	--	**0.0077**	--	< 0.8	< 0.0005	--	**2.5**	< 0.0002	--	**0.055**	**0.013**	< 0.0004	**3.9**
MW-87	5/24/2022	FC-CCR-SS07-0522	< 0.1	< 0.05	--	< 0.125	--	< 0.0125	--	< 0.0125	--	< 0.1	--	**0.00856 J**	--	< 125 / **0.51**	< 0.025	--	**2.34**	< 0.001	--	**0.0548**	**0.0072 J**	< 0.025	--
MW-87	8/11/2022	FC-CCR-MW87-0822	--	--	--	--	--	< 0.01	--	--	--	--	--	**0.0069**	--	**2.2**	--	--	**2.7 J**	--	--	**0.052**	--	--	--
MW-87	8/11/2022	*DUP* FC-CCR-FD01-0822	--	--	--	--	--	< 0.01	--	--	--	--	--	**0.0065**	--	< 2	--	--	**2.7**	--	--	**0.056**	--	--	--
MW-87	11/15/2022	FC-CCR-MW87-1122	< 0.002	**0.0014**	--	**0.0086**	--	< 0.002	--	**0.00021**	--	< 0.002	--	**0.0059**	--	< 8	< 0.001	--	**2.8**	< 0.0002	--	**0.057**	**0.022**	**0.00020**	**4.8**
MW-50B	3/17/2015	FCPP-50B-031715	--	**0.0790**	--	--	--	--	--	--	--	**0.35**	--	--	--	< 2.0	--	--	--	--	--	--	**0.020**	--	--

Additional Analyses

Well	Date	Sample ID	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Iron	Magnesium	Magnesium	Manganese	Potassium	Potassium	Radium 226	Radium 228	Selenium	Sodium	Sodium
		Filtered:	N	N	N	N	N	N	N	Y	N	N	Y	N	N	Y	N	Y
		Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
		Multiunit 1 BTV	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--
		Multiunit 1 GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	8/21/2016	FC-CCR-MW61-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	8/21/2016	FC-CCR-MW61-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	8/21/2016	FC-CCR-MW61-816	--	--	--	--	--	--	--	--	--	--	--	**0.4**	**1.0**	--	--	--
MW-61	9/13/2016	FC-CCR-MW61-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	9/13/2016	FC-CCR-MW61-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	9/13/2016	FC-CCR-MW61-916	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.3**	--	--	--
MW-61	10/19/2016	FC-CCR-MW101-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	10/19/2016	FC-CCR-MW101-1016	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.4	--	--	--
MW-61	10/20/2016	FC-CCR-MW61-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	10/20/2016	FC-CCR-MW61-1016	--	--	--	--	--	--	--	--	--	--	--	< 0.3	**0.7**	--	--	--
MW-61	2/2/2017	FC-CCR-MW61-117	**66**	**24**	< 6.0	**90**	**12**	--	**120**	--	--	**20**	--	--	--	--	**1,000**	--
MW-61	2/2/2017	FC-CCR-MW61-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	2/2/2017	FC-CCR-MW61-117	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**2.2**	--	--	--
MW-61	4/18/2017	FC-CCR-MW61-41817	**77**	**11**	< 6.0	**89**	< 6.0	--	**120**	--	--	**20**	--	--	--	--	**1,100**	--
MW-61	4/18/2017	FC-CCR-MW61-41817	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.6	--	--	--
MW-61	4/18/2017	FC-CCR-MW61-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	5/3/2017	FC-CCR-MW61-5317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	5/3/2017	FC-CCR-MW61-5317	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.7**	--	--	--
MW-61	5/30/2017	FC-CCR-MW61-53017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	5/30/2017	FC-CCR-MW61-53017	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-61	6/22/2017	FC-CCR-MW61-62217	**76**	**14**	< 6.0	**90**	**6.8**	--	**120**	--	--	**20**	--	--	--	--	**1,100**	--
MW-61	6/22/2017	FC-CCR-MW61-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	6/22/2017	FC-CCR-MW61-62217	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--	--	--
MW-61	7/22/2017	FC-CCR-MW61-72217	**88**	< 6.0	< 6.0	**88**	< 6.0	--	**130**	--	--	**21**	--	--	--	--	**1,100**	--
MW-61	7/22/2017	FC-CCR-MW61-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	7/22/2017	FC-CCR-MW61-72217	--	--	--	--	--	--	--	--	--	--	--	**0.5**	< 0.6	--	--	--
MW-61	8/10/2017	FC-CCR-MW61-81017	**88**	< 6.0	< 6.0	**88**	< 6.0	--	**130**	--	--	**21**	--	--	--	--	**1,100**	--
MW-61	8/10/2017	FC-CCR-MW61-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	8/10/2017	FC-CCR-MW61-81017	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-61	8/17/2017	FC-CCR-MW61-81717	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
MW-61	8/17/2017	FC-CCR-MW61-81717	**89**	< 6.0	< 6.0	**89**	< 6.0	--	**130**	--	--	**24**	--	--	--	--	**1,100**	--
MW-61	9/10/2017	FC-CCR-MW61-91017	**73**	**17**	< 6.0	**90**	**8.3**	--	**120**	--	--	**20**	--	--	--	--	**1,000**	--
MW-61	9/10/2017	FC-CCR-MW61-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	9/10/2017	FC-CCR-MW61-91017	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.7**	--	--	--
MW-61	10/12/2017	FC-CCR-MW61-101217	--	--	--	--	--	--	--	--	--	--	--	**0.4**	**1.6**	--	--	--
MW-61	10/12/2017	FC-CCR-MW61-101217	**76**	**14**	< 6.0	**90**	**7.0**	--	**120**	--	--	**19**	--	--	--	--	**1,000**	--
MW-61	11/30/2017	FC-CCR-MW61-113017	**78**	**11**	< 6.0	**90**	< 6.0	--	**120**	--	--	**22**	--	--	--	--	**1,100**	--
MW-61	3/17/2018	FC-CCR-MW61-31718	--	--	--	--	--	--	--	--	--	--	--	< 0.9	< 0.8	--	--	--
MW-61	6/1/2018	FC-CCR-MW-61-6118	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-61	6/1/2018	FC-CCR-MW-61-6118	**91**	< 6.0	< 6.0	**91**	< 6.0	--	**120**	--	--	**19**	--	--	--	--	**980**	--
MW-61	6/1/2018	*DUP* FC-CCR-FD01-6118	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-61	6/1/2018	*DUP* FC-CCR-FD01-6118	**89**	< 6.0	< 6.0	**91**	< 6.0	--	**120**	--	--	**20**	--	--	--	--	**980**	--
MW-61	11/3/2018	FC-CCR-MW61-11318	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	11/3/2018	FC-CCR-MW61-11318	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	11/3/2018	FC-CCR-MW61-11318	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-61	3/19/2019	FC-CCR-MW61-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	3/19/2019	FC-CCR-MW61-031919	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-61	5/13/2019	FC-CCR-MW61-51319	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	5/13/2019	FC-CCR-MW61-51319	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
MW-61	11/19/2019	FC-CCR-MW61-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61	6/21/2020	FC-CCR-MW61-0620	--	--	--	--	--	--	--	--	--	--	--	**0.7**	< 0.6	--	--	--
MW-61	11/8/2020	FC-CCR-MW61-1120	**61**	**33**	< 6	**94**	**17**	--	**140**	--	--	**25**	--	< 0.4	< 0.8	--	**1,100**	--
MW-61	4/23/2021	FC-CCR-MW61-0421	**72**	**26**	< 6	**97**	**13**	--	**130**	--	--	**23**	--	<0.4	**0.9**	--	**1,000**	--
MW-61	11/13/2021	FC-CCR-MW61-1121	**59**	**32**	< 6	**91**	**16**	--	**140**	--	--	**21**	--	**0.6**	< 0.6	--	**1,100**	--
MW-61	5/22/2022	FC-CCR-MW61-0522	**68**	**29**	< 6	**97**	**15**	--	**140**	--	--	**20**	--	**0.4**	<0.6	--	**1,100**	--
MW-61	11/11/2022	FC-CCR-MW61-1122	**64**	**33**	< 6	**97**	**16**	--	**150**	--	--	**21**	--	< 0.3	< 0.6	--	**1,100**	--
MW-75	4/18/2017	FC-CCR-MW-75-41817	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.6**	--	--	--
MW-75	4/18/2017	FC-CCR-MW75-41817	**94**	< 6.0	< 6.0	**94**	< 6.0	--	**210**	--	--	**21**	--	--	--	--	**1,200**	--
MW-75	4/18/2017	FC-CCR-MW75-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	5/3/2017	FC-CCR-MW-75-5317	--	--	--	--	--	--	--	--	--	--	--	**0.4**	< 0.6	--	--	--
MW-75	5/3/2017	FC-CCR-MW75-5317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	5/30/2017	FC-CCR-MW-75-53017	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.9**	--	--	--
MW-75	5/30/2017	FC-CCR-MW75-53017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	6/22/2017	FC-CCR-MW75-62217	**95**	< 6.0	< 6.0	**95**	< 6.0	--	**240**	--	--	**23**	--	--	--	--	**1,300**	--
MW-75	6/22/2017	FC-CCR-MW75-62217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	6/22/2017	FC-CCR-MW-75-62117	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.6	--	--	--
MW-75	7/22/2017	FC-CCR-MW75-72217	**95**	< 6.0	< 6.0	**95**	< 6.0	--	**240**	--	--	**23**	--	--	--	--	**1,300**	--
MW-75	7/22/2017	FC-CCR-MW75-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	7/22/2017	FC-CCR-MW75-72217	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-75	8/10/2017	FC-CCR-MW75-81017	**94**	< 6.0	< 6.0	**94**	< 6.0	--	**240**	--	--	**23**	--	--	--	--	**1,300**	--
MW-75	8/10/2017	FC-CCR-MW75-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	8/10/2017	FC-CCR-MW75-81017	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.0**	--	--	--
MW-75	8/17/2017	FC-CCR-MW75-81717	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
MW-75	8/17/2017	FC-CCR-MW75-81717	**95**	< 6.0	< 6.0	**95**	< 6.0	--	**240**	--	--	**26**	--	--	--	--	**1,300**	--
MW-75	9/10/2017	FC-CCR-MW75-91017	**96**	< 6.0	< 6.0	**96**	< 6.0	--	**230**	--	--	**22**	--	--	--	--	**1,200**	--
MW-75	9/10/2017	FC-CCR-MW75-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	9/10/2017	FC-CCR-MW75-91017	--	--	--	--	--	--	--	--	--	--	--	< 0.5	**0.8**	--	--	--
MW-75	10/12/2017	FC-CCR-MW75-101217	--	--	--	--	--	--	--	--	--	--	--	< 0.3	**0.8**	--	--	--
MW-75	10/12/2017	FC-CCR-MW75-101217	**96**	< 6.0	< 6.0	**96**	< 6.0	--	**220**	--	--	**21**	--	--	--	--	**1,200**	--
MW-75	11/30/2017	FC-CCR-MW75-113017	**90**	< 6.0	< 6.0	**90**	< 6.0	--	**230**	--	--	**24**	--	--	--	--	**1,300**	--
MW-75	11/30/2017	*DUP* FC-CCR-FD02-113017	**90**	< 6.0	< 6.0	**90**	< 6.0	--	**230**	--	--	**24**	--	--	--	--	**1,200**	--
MW-75	3/17/2018	FC-CCR-MW75-31718	--	--	--	--	--	--	--	--	--	--	--	< 0.8	< 0.8	--	--	--
MW-75	6/1/2018	FC-CCR-MW-75-6118	--	--	--	--	--	--	--	--	--	--	--	< 0.5	**1.4**	--	--	--
MW-75	6/1/2018	FC-CCR-MW-75-6118	**98**	< 6.0	< 6.0	**98**	< 6.0	--	**210**	--	--	**21**	--	--	--	--	**1,100**	--
MW-75	11/3/2018	FC-CCR-MW75-11318	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	11/3/2018	FC-CCR-MW75-11318	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	11/3/2018	FC-CCR-MW75-11318	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-75	3/19/2019	FC-CCR-MW75-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	3/19/2019	FC-CCR-MW75-031919	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
MW-75	5/13/2019	FC-CCR-MW75-51319	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	5/13/2019	FC-CCR-MW75-51319	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
MW-75	11/19/2019	FC-CCR-MW75-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75	6/21/2020	FC-CCR-MW75-0620	--	--	--	--	--	--	--	--	--	--	--	**0.8**	< 0.6	--	--	--
MW-75	11/8/2020	FC-CCR-MW75-1120	**99**	< 6	< 6	**99**	< 6	--	**250**	--	--	**27**	--	< 0.4	< 0.8	--	**1,300**	--
MW-75	4/23/2021	FC-CCR-MW75-0421	**100**	< 6	< 6	**100**	< 6	--	**240**	--	--	**25**	--	<0.5	<0.8	--	**1,300**	--
MW-75	11/13/2021	FC-CCR-MW75-1121	**98**	< 6	< 6	**98**	< 6	--	**240**	--	--	**22**	--	< 0.3	**0.8**	--	**1,300**	--
MW-75	5/22/2022	FC-CCR-MW75-0522	**100**	< 6	< 6	**100**	< 6	--	**230**	--	--	**23**	--	<0.3	**1.4**	--	**1,300**	--
MW-75	11/11/2022	FC-CCR-MW75-1122	**100**	< 6	< 6	**100**	< 6	--	**250**	--	--	**22**	--	**0.7**	< 0.6	--	**1,400**	--
MW-76	4/26/2021	FC-CCR-MW76-0421	**270**	< 6	< 6	**270**	< 6	--	**200**	--	--	**29**	--	<0.5	<0.8	--	**1,200**	--
MW-87	3/19/2019	FC-CCR-MW87-031919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-87	3/19/2019	FC-CCR-MW87-031919	--	--	--	--	--	--	--	--	--	--	--	< 0.6	**1.5**	--	--	--
MW-87	5/14/2019	FC-CCR-MW87-51419	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-87	5/14/2019	FC-CCR-MW87-51419	--	--	--	--	--	--	--	--	--	--	--	< 0.5	**1.4**	--	--	--
MW-87	6/22/2019	FC-NIT-MW87-62219	**830**	< 6.0	< 6.0	**830**	< 6.0	--	**1,200**	--	--	**83**	--	--	--	--	**6,300**	--
MW-87	11/19/2019	FC-CCR-MW87-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-87	11/19/2019	*DUP* FC-CCR-FD02-111919	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-87	6/23/2020	FC-CCR-MW87-0620	**900**	< 6	< 6	**900**	< 6	--	**1,500**	--	--	**78**	--	**0.8**	**2.0**	--	**7,200**	--
MW-87	11/6/2020	FC-CCR-MW87-1120	**800**	< 6	< 6	**800**	< 6	--	**2,000**	--	--	**130**	--	**1.0**	**2.7**	--	**8,300**	--
MW-87	4/27/2021	FC-CCR-MW87-0421	**900**	< 6	< 6	**900**	< 6	**0.56**	**2,300**	--	**0.58**	**130**	--	<0.5	<0.8	--	**9,600**	--
MW-87	11/17/2021	FC-CCR-MW87-1121	**1,200**	< 6	< 6	**1,200**	< 6	**1.6**	**3,500**	--	**0.43**	**130**	--	**0.6**	< 0.7	--	**14,000**	--
MW-87	11/17/2021	FC-CCR-FD04-1121	**1,100**	< 6	< 6	**1,100**	< 6	**1.5**	**3,500**	--	**0.43**	**130**	--	**0.7**	< 0.7	--	**13,000**	--
MW-87	2/8/2022	FC-CCR-MW87-0222	**1,200**	< 6	< 6	**1,200**	< 6	**0.52**	**3,000**	--	--	**100**	--	--	--	--	**13,000**	--
MW-87	5/24/2022	FC-CCR-MW87-0522	**1,200**	< 6	< 6	**1,200**	< 6	**0.31**	**2,900**	--	**0.47**	**110**	--	**0.8**	**3.1**	--	**11,000**	--
MW-87	5/24/2022	*DUP* FC-CCR-FD04-0522	**1,200**	< 6	< 6	**1,200**	< 6	**0.33**	**3,000**	--	**0.47**	**110**	--	**0.6**	**3.3**	--	**11,000**	--
MW-87	5/24/2022	FC-CCR-SS07-0522	**1,160**	< 20	< 20	**1,160**	--	< 7.5	**2,680**	--	< 2.5	**101**	--	--	--	--	**10,900**	--
MW-87	8/11/2022	FC-CCR-MW87-0822	**1,300**	< 6	< 6	**1,300**	< 6	< 1	**3,300**	--	--	**83**	--	--	--	--	**11,000**	--
MW-87	8/11/2022	*DUP* FC-CCR-FD01-0822	**1,300**	< 6	< 6	**1,300**	< 6	< 1	**3,200**	--	--	**83**	--	--	--	--	**12,000**	--
MW-87	11/15/2022	FC-CCR-MW87-1122	--	--	--	--	--	--	--	--	--	--	--	**1.5**	**3.3**	--	--	--
MW-50B	3/17/2015	FCPP-50B-031715	**630**	< 6.0	< 6.0	**630**	< 6.0	--	< 200	--	--	**79**	--	--	--	--	**4,500**	--

Notes:
BTV exceedances are shown in grey shaded cells. GWPS exceedence are shown in red text.

Abbreviations and Data Qualifiers:
* data appears anomalous
< = less than
BTV = Background Threshold Value
degrees C = degrees Celsius
GWPS = Groundwater Protection Standard
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
mg/L = milligrams per liter
pCi/L = Picocuries per liter
su = standard units
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Groundwater Sampling Results for the URS Monitoring Wells

				Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Magnesium	Potassium	Radium 226	Radium 228	Sodium
					Appendix III Constituents								Appendix IV Constituents															Additional Analyses									
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L
				URS BTV (applicable to downgradient wells)	*1.9*	*540*	*710*	*<RL*	*LPL and UPL*	*LPL and UPL*	*13,000*	*20,000*	*0.01*	*0.13*	*0.051*	*0.001*	*0.001*	*0.01*	*0.016*	*4*	*0.005*	*0.8*	*0.0002*	*0.011*	*0.45*	*0.002*	*5*	--	--	--	--	--	--	--	--	--	--
				URS GWPS (applicable to downgradient wells)	--	--	--	--	--	--	--	--	*0.01*	*0.13*	*2*	*0.004*	*0.005*	*0.1*	*0.016*	*4*	*0.015*	*0.8*	*0.002*	*0.1*	*0.45*	*0.002*	*5.4*	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	3/5/2016	FC-CCR-MW-71-030516	0.44	450	660	< 0.050	7.73	--	8,500	13,000	0.00016	0.016	0.027	0.00064	0.00019	0.00078	0.0028	< 0.050	0.00061	0.28	< 0.00020	0.0028	0.19	0.00031	--	490	< 5.0	--	490	--	1,600	23	--	--	880
MW-71	URS/CWT	Background	3/5/2016	FC-CCR-MW-71-030516	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.656	1.2	--
MW-71	URS/CWT	Background	3/5/2016	*DUP* FC-CCR-FD-2-030516	0.46	480	670	< 0.050	--	--	8,500	13,000	< 0.0020	0.017	0.025	< 0.0010	0.00010	0.00054	0.0028	< 0.050	0.00021	0.28	< 0.00020	0.0029	0.20	0.00026	--	410	< 5.0	--	410	--	1,700	24	--	--	940
MW-71	URS/CWT	Background	3/5/2016	*DUP* FC-CCR-FD-2-030516	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.717	1.26	--
MW-71	URS/CWT	Background	4/26/2016	FC-CCR-MW-71-042616	0.69	470	670	< 2.0	6.58	--	13,000	21,000	< 0.0025	0.0064	0.019	< 0.0010	0.00015	< 0.00050	0.0049	< 2.0	< 0.00050	0.45	< 0.00020	0.0018	0.31	0.00047	2.2	--	--	--	--	--	--	--	0.7	1.5	--
MW-71	URS/CWT	Background	6/6/2016	FC-CCR-MW71-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.2	--	--	--	--	--	--	--	1.1	2.1	--
MW-71	URS/CWT	Background	6/6/2016	FC-CCR-MW71-616	0.70	460	750	< 0.40	6.47	6.87	13,000	20,000	0.00012	0.0069	0.020	< 0.0010	0.00015	< 0.00050	0.0041	< 0.40	0.00073	0.41	< 0.00020	0.0014	0.28	0.00043	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	8/21/2016	FC-CCR-MW71-816	0.56	450	590	< 0.80	7.04	7.1	8,400	14,000	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	8/21/2016	FC-CCR-MW71-816	--	--	--	< 0.80	--	--	--	--	0.00022	0.0066	0.014	< 0.0010	< 0.00020	< 0.0010	< 0.0010	< 0.80	< 0.0010	0.36	< 0.00020	0.0025	0.26	0.00029	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	8/21/2016	FC-CCR-MW71-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	0.6	1.0	--
MW-71	URS/CWT	Background	8/21/2016	FC-CCR-MW101-816	--	--	--	--	--	7.1	--	14,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	8/21/2016	FC-CCR-MW101-816	--	--	--	< 0.40	--	--	--	--	0.00024	0.0076	0.013	< 0.0010	< 0.00020	< 0.0010	< 0.0010	< 0.40	< 0.0010	0.37	< 0.00020	0.0024	0.25	0.00028	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	8/21/2016	FC-CCR-MW101-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	0.3	0.8	--
MW-71	URS/CWT	Background	9/12/2016	FC-CCR-MW71-916	0.58	460	570	< 0.40	6.86	7.2	9,300	16,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	9/12/2016	FC-CCR-MW71-916	--	--	--	< 0.40	--	--	--	--	< 0.0025	< 0.0010	0.013	< 0.0010	< 0.00050	< 0.0025	0.0012	< 0.40	< 0.00050	0.30	< 0.00020	0.0013	0.18	< 0.00050	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	9/12/2016	FC-CCR-MW71-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	0.5	1.6	--
MW-71	URS/CWT	Background	10/20/2016	FC-CCR-MW71-1016	0.55	410	580	< 0.40	6.90	7.3	9,100	15,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	10/20/2016	FC-CCR-MW71-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4	--	--	--	--	--	--	--	0.4	< 0.7	--
MW-71	URS/CWT	Background	2/2/2017	FC-CCR-MW71-117	0.62	440	610	< 0.40	6.64	7.6	14,000	17,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	550	< 6.0	< 6.0	550	< 6.0	2,300	32	--	--	1,200
MW-71	URS/CWT	Background	2/2/2017	FC-CCR-MW71-117	--	--	--	< 0.40	--	--	--	--	< 0.0010	0.0094	0.012	< 0.0010	0.00011	< 0.00050	0.0012	< 0.40	< 0.00050	0.39	< 0.00020	0.00078	0.34	0.00037	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	2/2/2017	FC-CCR-MW71-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	< 0.4	1.9	--
MW-71	URS/CWT	Background	4/17/2017	FC-CCR-MW71-41717	0.52	400	550	< 2.0	6.81	7.6	9,400	15,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	420	< 6.0	< 6.0	420	< 6.0	1,800	25	--	--	980
MW-71	URS/CWT	Background	4/17/2017	FC-CCR-MW71-41717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	< 0.4	1.2	--
MW-71	URS/CWT	Background	4/17/2017	FC-CCR-MW71-41717	--	--	--	< 2.0	--	--	--	--	< 0.0040	0.0063	0.010	< 0.0010	< 0.00040	< 0.0020	< 0.0020	< 2.0	< 0.0020	0.32	< 0.00020	< 0.0020	0.20	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	5/2/2017	FC-CCR-MW71-5217	--	--	--	< 13	6.86	--	--	--	< 0.0010	0.0072	0.0087	< 0.0010	< 0.00010	< 0.0010	< 0.0010	< 13	< 0.00050	0.34	< 0.00020	< 0.0010	0.27	0.00025	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	5/2/2017	FC-CCR-MW71-5217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.7	--	--	--	--	--	--	--	0.7	< 0.6	--
MW-71	URS/CWT	Background	5/29/2017	FC-CCR-MW71-52917	--	--	--	< 2.0	6.76	--	--	--	< 0.010	0.0070	0.010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 2.0	< 0.0050	0.33	< 0.00020	< 0.0050	0.21	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	5/29/2017	FC-CCR-MW71-52917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-71	URS/CWT	Background	6/22/2017	FC-CCR-MW71-62217	0.60	460	620	--	6.79	7.2	4,600	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	540	< 6.0	< 6.0	540	< 6.0	2,400	31	--	--	1,200
MW-71	URS/CWT	Background	6/22/2017	FC-CCR-MW71-62217	--	--	--	< 2.0	--	--	--	--	< 0.0040	0.0063	0.012	< 0.0010	< 0.00040	< 0.0020	< 0.0020	< 2.0	< 0.0020	0.38	< 0.00020	< 0.0020	0.25	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	6/22/2017	FC-CCR-MW71-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.7	--	--	--	--	--	--	--	1.2	1.5	--
MW-71	URS/CWT	Background	7/21/2017	FC-CCR-MW71-72117	0.55	450	590	< 2.0	7.00	7.1	10,000	15,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	420	< 6.0	< 6.0	420	< 6.0	1,800	27	--	--	1,100
MW-71	URS/CWT	Background	7/21/2017	FC-CCR-MW71-72117	--	--	--	--	--	--	--	--	< 0.0040	0.0053	0.0086	< 0.0010	< 0.00040	< 0.0020	< 0.0010	--	< 0.0020	< 0.40	< 0.00020	< 0.0020	0.24	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	7/21/2017	FC-CCR-MW71-72117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	--	--	--	--	--	--	--	< 0.5	< 0.4	--
MW-71	URS/CWT	Background	8/10/2017	FC-CCR-MW71-81017	0.55	450	560	--	6.59	7.4	10,000	15,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	420	< 6.0	< 6.0	420	< 6.0	2,000	27	--	--	1,100
MW-71	URS/CWT	Background	8/10/2017	FC-CCR-MW71-81017	--	--	--	< 2.0	--	--	--	--	< 0.010	0.0048	0.0092	< 0.0010	< 0.0010	< 0.0040	< 0.0020	< 2.0	< 0.0050	0.34	< 0.00020	< 0.0050	0.21	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	8/10/2017	FC-CCR-MW71-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-71	URS/CWT	Background	8/17/2017	FC-CCR-MW71-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	< 0.4	2.0	--
MW-71	URS/CWT	Background	8/17/2017	FC-CCR-MW71-81717	0.56	480	570	< 2.0	6.62	7.3	9,500	15,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	430	< 6.0	< 6.0	430	< 6.0	1,800	30	--	--	1,100
MW-71	URS/CWT	Background	9/11/2017	FC-CCR-MW71-91117	0.55	470	570	--	6.56	7.1	9,900	15,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	420	< 6.0	< 6.0	420	< 6.0	1,800	26	--	--	1,100
MW-71	URS/CWT	Background	9/11/2017	FC-CCR-MW71-91117	--	--	--	< 2.0	--	--	--	--	< 0.0040	0.0048	0.0089	< 0.0010	< 0.00040	< 0.0040	< 0.0020	< 2.0	< 0.0020	0.32	< 0.00020	< 0.0020	0.20	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	9/11/2017	FC-CCR-MW71-91117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-71	URS/CWT	Background	10/13/2017	FC-CCR-MW71-101317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	0.8	0.8	--
MW-71	URS/CWT	Background	10/13/2017	FC-CCR-MW71-101317	0.54	420	570	< 2.0	6.79	7.2	10,000	15,000	< 0.010	< 0.0050	0.012	< 0.0010	< 0.0010	< 0.010	< 0.0050	< 2.0	< 0.0050	0.33	< 0.00020	< 0.0050	0.20	< 0.0010	--	430	< 6.0	< 6.0	430	< 6.0	1,700	26	--	--	1,000
MW-71	URS/CWT	Background	11/30/2017	FC-CCR-MW71-113017	0.56	490	540	< 2.0	6.71	7.1	10,000	15,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	430	< 6.0	< 6.0	430	< 6.0	1,700	29	--	--	1,100
MW-71	URS/CWT	Background	3/16/2018	FC-CCR-MW71-31618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8	--	--	--	--	--	--	--	< 1.0	0.8	--
MW-71	URS/CWT	Background	6/2/2018	FC-CCR-MW-71-6218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	0.4	1.5	--
MW-71	URS/CWT	Background	6/2/2018	FC-CCR-MW-71-6218	0.55	420	520	< 0.80	6.85	7.1	10,000	15,000	--	0.012	< 0.010	--	--	--	< 0.010	< 0.80	--	0.32	< 0.00020	< 0.010	0.20	< 0.0020	--	430	< 6.0	< 6.0	430	< 6.0	2,000	27	--	--	1,000
MW-71	URS/CWT	Background	11/3/2018	FC-CCR-MW71-11318	0.56	470	520	< 2.0	6.81	7.0	11,000	16,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	11/3/2018	FC-CCR-MW71-11318	--	--	--	--	--	--	--	--	--	0.0046	0.0098	--	--	--	< 0.00050	--	--	0.35	--	0.00079	0.27	0.00031	1.2	--	--	--	--	--	--	--	1.2	< 0.7	--
MW-71	URS/CWT	Background	11/3/2018	FC-CCR-MW71-11318	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	11/3/2018	*DUP* FC-CCR-FD01-11318	0.54	450	520	< 0.80	6.68	7.2	11,000	16,000	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	11/3/2018	*DUP* FC-CCR-FD01-11318	--	--	--	--	--	--	--	--	--	0.0068	0.0095	--	--	--	< 0.00050	--	--	0.34	--	0.00065	0.31	0.00030	1.8	--	--	--	--	--	--	--	1.8	< 0.7	--
MW-71	URS/CWT	Background	3/18/2019	FC-CCR-MW71-031819	--	--	--	< 0.80	--	--	--	--	< 0.0010	0.0069	0.010	< 0.0010	< 0.00010	< 0.0010	< 0.00050	< 0.80	< 0.00050	0.32	< 0.00020	0.00066	0.37	0.00031	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	3/18/2019	FC-CCR-MW71-031819	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-71	URS/CWT	Background	5/6/2019	FC-CCR-MW71-5719	--	--	--	--	6.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	< 0.4	1.0	--
MW-71	URS/CWT	Background	12/2/2019	FC-CCR-MW71-120219	0.50	440	500	< 0.80	6.66	7.2 J	10,000	16000 J	< 0.0040	0.0095	0.012	< 0.0010	< 0.00040	< 0.0040	< 0.0020	< 0.80	< 0.0020	0.32	< 0.00020	< 0.0020	0.27	0.00065	--	--	--	--	--	--	--	--	--	--	--
MW-71	URS/CWT	Background	6/20/2020	FC-CCR-MW71-0620	0.59	450	480	< 0.8	6.71	7.3 J	9,900	15,000	< 0.002	0.0048	0.0045	--	< 0.0002	< 0.002	< 0.001	< 0.8	< 0.001	0.75	--	< 0.001	0.15	0.00025	< 0.8	--	--	--	--	--	--	--	< 0.4	< 0.8	--
MW-71	URS/CWT	Background	11/5/2020	FC-CCR-MW71-1120	0.59	460	490	< 0.4	6.78	7.2 J	10,000	16,000	< 0.002	0.012	0.0092	< 0.001	< 0.0002 U	< 0.002	0.00026 J	< 0.4	< 0.001	0.35	< 0.0002	0.00061 J	0.28	0.00023	< 0.8	--	--	--	--	--	--	--	< 0.5	< 0.8	--
MW-71	URS/CWT	Background	4/22/2021	FC-CCR-MW71-0421	0.73	510	560	3.8 NJ	6.83	7.2 J	14,000	19,000	< 0.004	0.0013 J	0.014	< 0.001	0.00012 J	< 0.004	0.0003 J	3.8 NJ	< 0.002	0.40	< 0.0002	< 0.002	0.36	0.00040	0.7	--	--	--	--	--	--	--	0.7	<0.7	--
MW-71	URS/CWT	Background	11/12/2021	FC-CCR-MW71-1121	0.54	440	560	0.14 J	6.74	7.4 J	12,000	8,000	< 0.002	< 0.001	0.010	<0.001	0.00010 J	< 0.002	0.00013 J	0.14 J	< 0.001	0.37	< 0.0002 UJ	< 0.001	0.24	0.00042	0.5	--	--	--	--	--	--	--	0.5	<0.6	--
MW-71	URS/CWTP	Background	05/21/2022	FC-CCR-MW71-0522	0.56	450	560	< 0.8	6.74	7.58 J	9,900	16,000	< 0.002	< 0.001	0.0094	< 0.001	< 0.0002	< 0.002	< 0.001	< 0.8	< 0.001	0.37	< 0.0002	< 0.001	0.28	0.00037	1.2	--	--	--	--	--	--	--	0.4	0.8	--
MW-71	URS/CWTP	Background	05/21/2022	FC-CCR-SS04-0522	0.78 J	467	642	< 50 / 0.28 J	6.74	7.8 J	12,400	16,000	< 0.02	< 0.01	0.00887 J	< 0.0025	< 0.0025	< 0.02	0.00147 J	< 50 / 0.28 J	< 0.005	0.367 J	< 0.001	< 0.005	0.233	< 0.005	--								--	--	
MW-71	URS/CWTP	Background	11/13/2022	FC-CCR-MW71-1122	0.52	490	530	< 0.8	6.79	7.1 J	12,000	19,000	< 0.001	0.00073	0.012	< 0.001	< 0.0001	< 0.001	< 0.0005	< 0.8	< 0.0005	0.37	< 0.0002	0.00052	0.36	0.00043	1.0	--	--	--	--	--	--	--	< 0.4	1.0	--
MW-72	URS/CWT	Background	3/7/2016	FC-CCR-MW72-030716	0.16	480	490	< 0.050	7.71	--	12,000	17,000	< 0.0020	0.011	0.035	< 0.0010	0.000078	0.00044	0.019	< 0.050	0.00013	0.33	< 0.00020	0.011	0.13	0.0012	--	620	< 5.0	--	620	--	2,300	29	--	--	720
MW-72	URS/CWT	Background	3/7/2016	FC-CCR-MW72-030716	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.06	1.85	--
MW-72	URS/CWT	Background	4/26/2016	FC-CCR-MW-72-042616	0.22	470	430	< 2.0	6.87	--	11,000	19,000	< 0.0025	0.0038	0.034	< 0.0010	< 0.00010	0.0028	0.0087	< 2.0	0.0011	0.40	< 0.00020	0.0093	0.16	0.00081	< 0.8	--	--	--	--	--	--	--	< 0.4	< 0.8	--
MW-72	URS/CWT	Background	6/6/2016	FC-CCR-MW72-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	0.5	0.8	--
MW-72	URS/CWT	Background	6/6/2016	FC-CCR-MW72-616	0.25	570	530	< 0.40	6.56	6.99	4,500	9,500	0.00027	0.0084	0.051	< 0.0010	< 0.00020	0.00060	0.0029	< 0.40	< 0.0010	< 0.20	< 0.00020	0.0052	0.39	0.00058	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	8/21/2016	FC-CCR-MW72-816	0.23	450	440	< 0.40	6.72	7.0	10,000	17,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	8/21/2016	FC-CCR-MW72-816	--	--	--	< 0.40	--	--	--	--	0.00026	0.0047	0.016	< 0.0010	< 0.00020	< 0.0010	0.0034	< 0.40	< 0.0010	0.42	< 0.00020	0.0061	0.18	0.0011	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	8/21/2016	FC-CCR-MW72-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.2	--	--	--	--	--	--	--	0.5	2.7	--
MW-72	URS/CWT	Background	9/13/2016	FC-CCR-MW72-916	0.24	470	450	< 0.40	6.17	7.1	10,000	17,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	9/13/2016	FC-CCR-MW72-916	--	--	--	< 0.40	--	--	--	--	< 0.0025	< 0.0010	0.019	< 0.0010	< 0.00050	< 0.0025	0.0073	< 0.40	< 0.00050	0.35	< 0.00020	0.011	< 0.0030	0.00056	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	9/13/2016	FC-CCR-MW72-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.9	--	--	--	--	--	--	--	0.5	3.4	--
MW-72	URS/CWT	Background	10/20/2016	FC-CCR-MW72-1016	0.23	400	480	< 0.40	6.84	7.1	11,000	17,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	10/20/2016	FC-CCR-MW72-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.2	--	--	--	--	--	--	--	0.7	3.5	--
MW-72	URS/CWT	Background	2/2/2017	FC-CCR-MW72-117	0.23	420	430	< 0.40	6.63	7.5	11,000	16,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	560	< 6.0	< 6.0	560	< 6.0	2,200	27	--	--	700
MW-72	URS/CWT	Background	2/2/2017	FC-CCR-MW72-117	--	--	--	< 0.40	--	--	--	--	< 0.0010	0.0041	0.0093	< 0.0010	< 0.00010	< 0.0010	0.0025	< 0.40	< 0.00050	0.39	< 0.00020	0.00093	0.13	0.00094	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	2/2/2017	FC-CCR-MW72-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.0	--	--	--	--	--	--	--	0.7	3.3	--
MW-72	URS/CWT	Background	2/2/2017	FC-CCR-MW101-117	0.21	430	450	< 0.40	--	7.5	11,000	16,000	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	560	< 6.0	< 6.0	560	< 6.0	2,300	28	--	--	710
MW-72	URS/CWT	Background	2/2/2017	FC-CCR-MW101-117	--	--	--	< 0.40	--	--	--	--	< 0.0020	0.0027	0.0084	< 0.0010	< 0.00020	< 0.0010	0.0025	< 0.40	< 0.0010	0.39	< 0.00020	0.0010	0.12	0.00096	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	2/2/2017	FC-CCR-MW101-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6	--	--	--	--	--	--	--	0.6	0.6	--
MW-72	URS/CWT	Background	4/17/2017	FC-CCR-MW-72-41717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.5	--	--	--	--	--	--	--	0.6	2.9	--
MW-72	URS/CWT	Background	4/17/2017	FC-CCR-MW72-41717	0.20	440	450	< 2.0	6.73	7.4	610	17,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	2,400	29	--	--	760
MW-72	URS/CWT	Background	4/17/2017	FC-CCR-MW72-41717	--	--	--	< 2.0	--	--	--	--	< 0.0040	0.0028	0.0096	< 0.0010	< 0.00040	< 0.0020	0.0024	< 2.0	< 0.0020	0.35	< 0.00020	< 0.0020	0.10	0.00096	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	5/2/2017	FC-CCR-MW-72-5217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.8	--	--	--	--	--	--	--	0.7	3.1	--
MW-72	URS/CWT	Background	5/2/2017	FC-CCR-MW72-5217	--	--	--	< 13	6.83	--	--	--	< 0.0010	0.0030	0.0079	< 0.0010	< 0.00010	< 0.0010	0.0024	< 13	< 0.00050	0.38	< 0.00020	< 0.0010	0.12	0.00091	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	5/29/2017	FC-CCR-MW72-52917	--	--	--	< 2.0	6.68	--	--	--	< 0.010	< 0.0050	0.0093	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 2.0	< 0.0050	0.37	< 0.00020	< 0.0050	0.11	0.0011	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	6/22/2017	FC-CCR-MW72-62217	0.23	450	450	--	6.65	7.1	11,000	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	2,400	29	--	--	760
MW-72	URS/CWT	Background	6/22/2017	FC-CCR-MW72-62217	--	--	--	< 2.0	--	--	--	--	< 0.0040	0.0023	0.0077	< 0.0010	< 0.00040	< 0.0020	0.0025	< 2.0	< 0.0020	0.39	< 0.00020	< 0.0020	0.10	0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	6/22/2017	FC-CCR-MW-72-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--	--	--	0.6	2.2	--
MW-72	URS/CWT	Background	6/22/2017	*DUP* FC-CCR-FD02-62217	0.22	440	450	--	--	7.0	11,000	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	610	< 6.0	< 6.0	610	< 6.0	2,500	30	--	--	770
MW-72	URS/CWT	Background	6/22/2017	*DUP* FC-CCR-FD02-62217	--	--	--	< 2.0	--	--	--	--	< 0.0040	< 0.0020	0.0086	< 0.0010	< 0.00040	< 0.0020	0.0025	< 2.0	< 0.0020	0.40	0.00020	< 0.0020	0.099	0.0011	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	6/22/2017	*DUP* FC-CCR-FD02-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.0	--	--	--	--	--	--	--	0.5	2.5	--
MW-72	URS/CWT	Background	7/21/2017	FC-CCR-MW72-72117	0.23	450	460	< 2.0	6.93	7.1	11,000	17,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	2,300	29	--	--	760
MW-72	URS/CWT	Background	7/21/2017	FC-CCR-MW72-72117	--	--	--	--	--	--	--	--	< 0.0040	0.0026	0.0073	< 0.0010	< 0.00040	< 0.0020	0.0024	--	< 0.0020	< 0.80	< 0.00020	< 0.0020	0.13	0.00089	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	7/21/2017	FC-CCR-MW72-72117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	< 0.5	1.7	--
MW-72	URS/CWT	Background	8/10/2017	FC-CCR-MW72-81017	0.21	450	460	--	6.47	7.3	11,000	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	2,500	30	--	--	780
MW-72	URS/CWT	Background	8/10/2017	FC-CCR-MW72-81017	--	--	--	< 2.0	--	--	--	--	< 0.0010	0.0040	0.0075	< 0.0010	< 0.00010	< 0.0010	0.0023	< 2.0	< 0.00050	0.41	< 0.00020	0.00087	0.14	0.00091	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	8/10/2017	FC-CCR-MW72-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--	--	--	< 0.4	2.8	--
MW-72	URS/CWT	Background	8/10/2017	*DUP* FC-CCR-FD02-81017	0.25	460	460	--	--	7.2	12,000	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	610	< 6.0	< 6.0	610	< 6.0	2,600	30	--	--	800

Groundwater Sampling Results for the URS Monitoring Wells

					Appendix III Constituents								Appendix IV Constituents															Additional Analyses									
				Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Magnesium	Potassium	Radium 226	Radium 228	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L
				URS BTV (applicable to downgradient wells)	*1.9*	*540*	*710*	*<RL*	*LPL and UPL*	*LPL and UPL*	*13,000*	*20,000*	*0.01*	*0.13*	*0.051*	*0.001*	*0.001*	*0.01*	*0.016*	*4*	*0.005*	*0.8*	*0.0002*	*0.011*	*0.45*	*0.002*	*5*	--	--	--	--	--	--	--	--	--	--
				URS GWPS (applicable to downgradient wells)	--	--	--	--	--	--	--	--	*0.01*	*0.13*	*2*	*0.004*	*0.005*	*0.1*	*0.016*	*4*	*0.015*	*0.8*	*0.002*	*0.1*	*0.45*	*0.002*	*5.4*	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	8/10/2017	*DUP* FC-CCR-FD02-81017	--	--	--	< 2.0	--	--	--	--	< 0.010	0.0028	0.0089	< 0.0010	< 0.0010	< 0.0040	0.0025	< 2.0	< 0.0050	0.42	< 0.00020	< 0.0050	0.10	0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	8/10/2017	*DUP* FC-CCR-FD02-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	< 0.4	1.7	--
MW-72	URS/CWT	Background	8/17/2017	FC-CCR-MW72-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	< 0.4	2.1	--
MW-72	URS/CWT	Background	8/17/2017	FC-CCR-MW72-81717	0.26	490	450	< 2.0	6.18	7.1	11,000	17,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	610	< 6.0	< 6.0	610	< 6.0	2,300	33	--	--	790
MW-72	URS/CWT	Background	8/17/2017	*DUP* FC-CCR-FD02-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.0	--	--	--	--	--	--	--	0.9	2.1	--
MW-72	URS/CWT	Background	8/17/2017	*DUP* FC-CCR-FD02-81717	0.27	480	460	< 2.0	--	7.2	12,000	17,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	600	< 6.0	< 6.0	600	< 6.0	2,400	32	--	--	770
MW-72	URS/CWT	Background	9/10/2017	FC-CCR-MW72-91017	0.21	470	460	--	6.61	7.0	11,000	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	610	< 6.0	< 6.0	610	< 6.0	2,300	28	--	--	730
MW-72	URS/CWT	Background	9/10/2017	FC-CCR-MW72-91017	--	--	--	< 2.0	--	--	--	--	< 0.0040	0.0029	0.0086	< 0.0010	< 0.00040	< 0.0040	0.0023	< 2.0	< 0.0020	0.37	< 0.00020	< 0.0020	0.10	0.00095	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	9/10/2017	FC-CCR-MW72-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--	< 0.4	2.3	--
MW-72	URS/CWT	Background	10/13/2017	FC-CCR-MW72-101317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.1	--	--	--	--	--	--	--	0.7	2.4	--
MW-72	URS/CWT	Background	10/13/2017	FC-CCR-MW72-101317	0.22	430	450	< 2.0	6.65	7.2	11,000	16,000	< 0.010	0.0052	0.011	< 0.0010	< 0.0010	< 0.010	< 0.0050	< 2.0	< 0.0050	0.38	< 0.00020	< 0.0050	0.11	0.0010	--	610	< 6.0	< 6.0	610	< 6.0	2,300	28	--	--	740
MW-72	URS/CWT	Background	11/29/2017	FC-CCR-MW72-112917	0.22	500	450	< 2.0	6.63	7.2	10,000	16,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	590	< 6.0	< 6.0	590	< 6.0	2,300	28	--	--	760
MW-72	URS/CWT	Background	3/16/2018	FC-CCR-MW72-31618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	< 1.0	1.9	--
MW-72	URS/CWT	Background	6/2/2018	FC-CCR-MW-72-6218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--	--	--	< 0.4	2.8	--
MW-72	URS/CWT	Background	6/2/2018	FC-CCR-MW-72-6218	0.21	410	450	< 0.80	6.75	7.0	11,000	16,000	--	< 0.010	< 0.010	--	--	--	< 0.010	< 0.80	--	0.35	< 0.00020	< 0.010	0.10	< 0.0020	--	610	< 6.0	< 6.0	610	< 6.0	2,300	26	--	--	670
MW-72	URS/CWT	Background	11/3/2018	FC-CCR-MW72-11318	0.22	470	450	< 2.0	6.75	7.0	11,000	16,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	11/3/2018	FC-CCR-MW72-11318	--	--	--	--	--	--	--	--	--	0.0031	0.0075	--	--	--	0.0020	--	--	0.37	--	0.00078	0.13	0.00088	1.7	--	--	--	--	--	--	--	0.7	1.0	--
MW-72	URS/CWT	Background	11/3/2018	FC-CCR-MW72-11318	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	11/3/2018	*DUP* FC-CCR-FD02-11318	0.21	460	450	< 2.0	--	7.1	11,000	16,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	11/3/2018	*DUP* FC-CCR-FD02-11318	--	--	--	--	--	--	--	--	--	0.0026	0.0075	--	--	--	0.0020	--	--	0.37	--	0.00078	0.15	0.00087	2.0	--	--	--	--	--	--	--	0.5	1.5	--
MW-72	URS/CWT	Background	3/17/2019	FC-CCR-MW72-031719	--	--	--	< 0.80	6.68	--	--	--	< 0.0010	0.0034	0.0077	< 0.0010	< 0.00010	< 0.0010	0.0022	< 0.80	< 0.00050	0.36	< 0.00020	0.00095	0.13	0.00095	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	3/17/2019	FC-CCR-MW72-031719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.4	--	--	--	--	--	--	--	< 0.4	2.4	--
MW-72	URS/CWT	Background	5/7/2019	FC-CCR-MW72-5719	--	--	--	--	6.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.4	--	--	--	--	--	--	--	< 0.4	3.4	--
MW-72	URS/CWT	Background	12/2/2019	FC-CCR-MW72-120219	0.19	430	430	< 0.80	6.62	7.1 J	11,000	16000 J	< 0.0020	0.0031	0.0081	< 0.0010	< 0.00020	< 0.0040	0.0023	< 0.80	< 0.0010	0.36	< 0.00020	0.0014	0.11	0.0011	--	--	--	--	--	--	--	--	--	--	--
MW-72	URS/CWT	Background	6/19/2020	FC-CCR-MW72-0620	0.23	440	400	< 0.8	6.65	7.2 J	11,000	16,000	< 0.004	0.0044	0.020	--	< 0.0004	< 0.004	0.0027	< 0.8	< 0.001	0.89	--	< 0.002	0.11	0.0011	3.5	--	--	--	--	--	--	--	0.9	2.6	--
MW-72	URS/CWT	Background	11/5/2020	FC-CCR-MW72-1120	0.24	470	430	< 0.4	6.70	7.1 J	10,000	16,000	< 0.001 U	0.0053	0.018	< 0.001	< 0.0001 U	0.00071 J	0.0013	< 0.4	< 0.0005	0.38	< 0.0002	0.0020	0.11	< 0.00011 U	2.4	--	--	--	--	--	--	--	0.7	1.7	--
MW-72	URS/CWT	Background	4/22/2021	FC-CCR-MW72-0421	0.25	480	400	< 0.8	6.89	7.2 J	10,000	16,000	< 0.004	0.0026	0.0086	< 0.001	0.00012 J	< 0.004	0.0029	< 0.8	< 0.002	0.37	< 0.0002	0.0011 J	0.11	0.0010	2.2	--	--	--	--	--	--	--	0.7	1.5	--
MW-72	URS/CWT	Background	11/12/2021	FC-CCR-MW72-1121	0.22	440	450	< 0.8	6.64	7.1 J	11,000	14,000	< 0.002	< 0.001	0.0085	<0.001	0.00006 J	< 0.002	0.0026	< 0.8	< 0.001	0.38	< 0.0002	0.00055 J	0.087	0.0010	3.7	--	--	--	--	--	--	--	1.3	2.4	--
MW-72	URS/CWTP	Background	05/22/2022	FC-CCR-MW72-0522	0.22	440	410	< 0.8	6.63	7.5 J	9,600	13,000	< 0.002	< 0.001	0.0073	< 0.001	< 0.0002	< 0.002	0.0025	< 0.8	< 0.001	0.37	< 0.0002	< 0.001	0.095	0.00094	1.2	--	--	--	--	--	--	--	<0.4	1.2	--
MW-72	URS/CWTP	Background	11/13/2022	FC-CCR-MW72-1122	0.15	470	400	< 0.8	6.81	7.2 J	10,000	15,000	< 0.001	0.00070	0.0086	< 0.001	< 0.0001	< 0.001	0.0026	< 0.8	< 0.0005	0.34	< 0.0002	0.00077	0.12	0.0010	1.9	--	--	--	--	--	--	--	< 0.4	1.9	--
MW-73	URS/CWT	Background	2/2/2017	FC-CCR-MW73-117	1.6	480	380	< 0.40	6.65	7.5	5,400	8,800	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	560	< 6.0	< 6.0	560	< 6.0	580	28	--	--	1,100
MW-73	URS/CWT	Background	2/2/2017	FC-CCR-MW73-117	--	--	--	< 0.40	--	--	--	--	< 0.0010	0.0015	0.043	< 0.0010	0.00017	< 0.0010	0.0073	< 0.40	< 0.00050	0.21	< 0.00020	0.0086	0.029	0.00020	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	2/2/2017	FC-CCR-MW73-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.2	--	--	--	--	--	--	--	1.0	2.2	--
MW-73	URS/CWT	Background	4/18/2017	FC-CCR-MW73-41817	1.6	450	340	< 0.80	6.70	7.3	5,700	9,200	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	650	< 6.0	< 6.0	650	< 6.0	630	29	--	--	1,200
MW-73	URS/CWT	Background	4/18/2017	FC-CCR-MW73-41817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	0.7	1.1	--
MW-73	URS/CWT	Background	4/18/2017	FC-CCR-MW73-41817	--	--	--	< 0.80	--	--	--	--	< 0.0040	< 0.0020	0.027	< 0.0010	< 0.00040	< 0.0020	0.0058	< 0.80	< 0.0020	0.22	< 0.00020	0.0041	0.019	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	5/2/2017	FC-CCR-MW73-5217	--	--	--	< 5.0	6.70	--	--	--	< 0.0020	< 0.0010	0.026	< 0.0010	0.00021	< 0.0010	0.0067	< 5.0	< 0.00050	0.24	< 0.00020	0.0037	0.015	0.00024	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	5/2/2017	FC-CCR-MW73-5217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--	0.5	1.8	--
MW-73	URS/CWT	Background	5/29/2017	FC-CCR-MW73-52917	--	--	--	< 0.80	6.70	--	--	--	< 0.010	< 0.0050	0.028	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.80	< 0.0050	< 0.20	< 0.00020	< 0.0050	0.043	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	5/29/2017	FC-CCR-MW73-52917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-73	URS/CWT	Background	6/22/2017	FC-CCR-MW73-62217	1.6	490	450	--	6.74	7.0	6,700	11,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	780	< 6.0	< 6.0	780	< 6.0	750	34	--	--	1,600
MW-73	URS/CWT	Background	6/22/2017	FC-CCR-MW73-62217	--	--	--	< 0.80	--	--	--	--	< 0.0040	< 0.0020	0.029	< 0.0010	< 0.00040	< 0.0020	0.0066	< 0.80	< 0.0020	0.25	< 0.00020	< 0.0020	0.019	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	6/22/2017	FC-CCR-MW73-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.1	--	--	--	--	--	--	--	1.5	1.6	--
MW-73	URS/CWT	Background	7/22/2017	FC-CCR-MW73-72217	1.6	490	520	< 0.80	6.83	7.1	8,000	12,000	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	840	37	--	--	1,800
MW-73	URS/CWT	Background	7/22/2017	FC-CCR-MW73-72217	--	--	--	< 2.0	--	--	--	--	< 0.0040	< 0.0020	0.024	< 0.0010	< 0.00040	< 0.0020	0.0067	< 2.0	< 0.0020	< 0.40	< 0.00020	0.0023	0.016	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	7/22/2017	FC-CCR-MW73-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	< 0.5	2.0	--
MW-73	URS/CWT	Background	7/22/2017	*DUP* FC-CCR-FD02-72217	1.6	490	500	< 2.0	--	7.1	7,800	12,000	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	850	37	--	--	1,800
MW-73	URS/CWT	Background	7/22/2017	*DUP* FC-CCR-FD02-72217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	0.7	1.1	--
MW-73	URS/CWT	Background	8/10/2017	FC-CCR-MW73-81017	1.7	500	540	--	6.45	7.4	7,700	12,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	820	36	--	--	1,800
MW-73	URS/CWT	Background	8/10/2017	FC-CCR-MW73-81017	--	--	--	< 0.80	--	--	--	--	< 0.010	< 0.0020	0.024	< 0.0010	< 0.0010	0.0041	0.0065	< 0.80	< 0.0050	0.27	< 0.00020	< 0.0050	0.017	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	8/10/2017	FC-CCR-MW73-81017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	< 0.4	1.1	--
MW-73	URS/CWT	Background	8/17/2017	FC-CCR-MW73-81717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	< 0.4	1.5	--
MW-73	URS/CWT	Background	8/17/2017	FC-CCR-MW73-81717	1.7	540	550	< 0.80	6.50	7.0	7,600	11,000	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	800	< 6.0	< 6.0	800	< 6.0	860	41	--	--	1,800
MW-73	URS/CWT	Background	9/10/2017	FC-CCR-MW73-91017	1.9	520	470	--	6.62	7.0	6,000	9,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	730	< 6.0	< 6.0	730	< 6.0	680	30	--	--	1,300
MW-73	URS/CWT	Background	9/10/2017	FC-CCR-MW73-91017	--	--	--	< 0.80	--	--	--	--	< 0.0040	0.0020	0.023	< 0.0010	< 0.00040	< 0.0040	0.0048	< 0.80	< 0.0020	0.22	< 0.00020	0.0024	0.033	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	9/10/2017	FC-CCR-MW73-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5	--	--	--	--	--	--	--	1.2	1.3	--
MW-73	URS/CWT	Background	10/12/2017	FC-CCR-MW73-101217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9	--	--	--	--	--	--	--	< 0.3	0.9	--
MW-73	URS/CWT	Background	10/12/2017	FC-CCR-MW73-101217	2.0	510	310	< 0.80	6.64	7.3	3,900	6,600	< 0.010	< 0.0050	0.024	< 0.0010	< 0.0010	< 0.010	< 0.0050	< 0.80	< 0.0050	< 0.20	< 0.00020	< 0.0050	0.048	< 0.0010	--	480	< 6.0	< 6.0	480	< 6.0	440	20	--	--	600
MW-73	URS/CWT	Background	10/12/2017	*DUP* FC-CCR-FD01-101217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	0.7	1.2	--
MW-73	URS/CWT	Background	10/12/2017	*DUP* FC-CCR-FD01-101217	2.0	510	300	< 0.80	--	7.1	3,700	6,600	< 0.010	< 0.0050	0.024	< 0.0010	< 0.0010	< 0.010	< 0.0050	< 0.80	< 0.0050	< 0.20	< 0.00020	< 0.0050	0.047	< 0.0010	--	480	< 6.0	< 6.0	480	< 6.0	430	20	--	--	590
MW-73	URS/CWT	Background	11/29/2017	FC-CCR-MW73-112917	1.8	550	420	< 0.80	6.61	7.1	5,600	8,900	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	650	< 6.0	< 6.0	650	< 6.0	640	32	--	--	1,200
MW-73	URS/CWT	Background	3/16/2018	FC-CCR-MW73-31618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6	--	--	--	--	--	--	--	< 1.0	2.6	--
MW-73	URS/CWT	Background	6/2/2018	FC-CCR-MW-73-6218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--	--	--	0.8	2.0	--
MW-73	URS/CWT	Background	6/2/2018	FC-CCR-MW-73-6218	1.6	460	550	< 0.80	6.67	6.9	7,100	12,000	--	< 0.010	0.023	--	--	--	< 0.010	< 0.80	--	0.26	< 0.00020	< 0.010	0.011	< 0.0020	--	800	< 6.0	< 6.0	800	< 6.0	710	34	--	--	1,600
MW-73	URS/CWT	Background	11/3/2018	FC-CCR-MW73-11318	1.7	480	660	< 0.80	6.64	7.0	7,500	12,000	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	11/3/2018	FC-CCR-MW73-11318	--	--	--	--	--	--	--	--	--	< 0.00050	0.022	--	--	--	0.0078	--	--	0.31	--	0.0026	0.0062	0.00020	2.9	--	--	--	--	--	--	--	1.5	1.4	--
MW-73	URS/CWT	Background	3/18/2019	FC-CCR-MW73-031819	--	--	--	< 0.80	6.95	--	--	--	< 0.0010	< 0.00050	0.023	< 0.0010	0.00013	< 0.0010	0.0038	< 0.80	< 0.00050	0.26	< 0.00020	0.0017	0.0069	0.00025	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	3/18/2019	FC-CCR-MW73-031819	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	< 0.4	1.6	--
MW-73	URS/CWT	Background	5/6/2019	FC-CCR-MW73-5619	--	--	--	--	6.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	< 0.4	1.7	--
MW-73	URS/CWT	Background	12/2/2019	FC-CCR-MW73-120219	1.6	460	520	< 0.80	6.49	7.1 J	7,100	11000 J	< 0.0020	< 0.0010	0.020	< 0.0010	< 0.00020	< 0.0040	0.0040	< 0.80	< 0.0010	0.23	< 0.00020	0.0020	0.0086	0.00022	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	12/2/2019	*DUP* FC-CCR-FD01-120219	1.7	480	500	< 0.80	--	7.0 J	6,900	11000 J	< 0.0020	< 0.0010	0.020	< 0.0010	< 0.00020	< 0.0040	0.0039	< 0.80	< 0.0010	0.23	< 0.00020	0.0021	0.0094	0.00021	--	--	--	--	--	--	--	--	--	--	--
MW-73	URS/CWT	Background	6/20/2020	FC-CCR-MW73-0620	1.7	450	520	< 0.8	6.53	7.2 J	7,200	12,000	< 0.004	< 0.002	0.033	--	< 0.0004	< 0.004	0.0062	< 0.8	< 0.002	0.65	--	0.0035	0.0077	< 0.0004	3.4	--	--	--	--	--	--	--	1.5	1.9	--
MW-73	URS/CWT	Background	11/5/2020	FC-CCR-MW73-1120	1.6	480	530	0.063 J	6.65	7.0 J	7,100	12,000	< 0.002 U	0.0012	0.020	< 0.001	< 0.0002 U	0.00073 J	0.0067	0.063 J	< 0.001	0.29	< 0.0002	0.0016	0.0099	0.00022	2.8	--	--	--	--	--	--	--	0.6	2.2	--
MW-73	URS/CWT	Background	4/22/2021	FC-CCR-MW73-0421	1.6	530	380	< 0.4	6.76	7.1 J	5,700	9,700	< 0.004	< 0.002	0.021	< 0.001	0.00016 J	< 0.004	0.0027	< 0.4	< 0.002	0.23	< 0.0002	0.0011 J	0.015	0.00026 J	1.8	--	--	--	--	--	--	--	0.7	1.1	--
MW-73	URS/CWT	Background	11/13/2021	FC-CCR-MW73-1121	1.6	460	560	0.12 J	6.48	7.0 J	7,400	9,600	0.00017 J	< 0.001	0.022	<0.001	0.00018 J	< 0.002	0.0041	0.12 J	< 0.001	0.31	< 0.0002 UJ	0.00093 J	0.0072	0.00023	2.8	--	--	--	--	--	--	--	1.0	1.8	--
MW-73	URS/CWTP	Background	05/22/2022	FC-CCR-MW73-0522	1.6	470	570	< 0.8	6.55	7.47 J	7,100	11,000	< 0.002	< 0.001	0.018	< 0.001	< 0.0002	< 0.002	0.0042	< 0.8	< 0.001	0.34	< 0.0002	0.0012	0.0038	0.00023	1.4	--	--	--	--	--	--	--	<0.4	1.4	--
MW-73	URS/CWTP	Background	11/14/2022	FC-CCR-MW73-1122	1.6	490	610	< 0.8	6.73	7.0 J	6,800	12,000	< 0.001	0.00092	0.022	< 0.001	0.00017	< 0.001	0.0042	< 0.8	< 0.0005	0.29	< 0.0002	0.0011	0.0095	0.00025	4.9	--	--	--	--	--	--	--	2.7	2.2	--
MW-66	URS	Downgradient	11/5/2015	FC-CCR-MW66-110515	87	470	870	18	--	--	7,300	11,000	< 0.0020	0.0034	0.016	< 0.0010	0.000062	0.0010	0.0051	18	0.00018	0.24	< 0.00020	0.016	0.0022	0.00063	--	250	< 5.0	--	250	--	1,700	29	--	--	310
MW-66	URS	Downgradient	11/5/2015	FC-CCR-MW66-110515	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.722	1.06	--
MW-66	URS	Downgradient	4/27/2016	FC-CCR-MW-66-042716	--	--	--	18	--	--	--	--	< 0.0025	0.0013	0.024	< 0.0010	< 0.00010	0.0031	0.0076	18	0.00072	0.29	< 0.00020	0.012	0.0018	0.00070	0.6	--	--	--	--	--	--	--	0.6	< 0.8	--
MW-66	URS	Downgradient	6/5/2016	FC-CCR-MW66-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	0.6	1.1	--
MW-66	URS	Downgradient	6/5/2016	FC-CCR-MW66-616	89	470	1,300	20	--	7.31	7,000	13,000	< 0.00010	0.00067	0.016	< 0.0010	< 0.00010	0.00074	0.0078	20	< 0.00050	0.28	< 0.00020	0.013	0.0016	0.00060	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	8/20/2016	FC-CCR-MW66-816	100	480	1,400	20	--	7.3	7,600	15,000	--	--	--	--	--	--	--	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	8/20/2016	FC-CCR-MW66-816	--	--	--	19	--	--	--	--	0.00013	0.0013	0.021	< 0.0010	< 0.00010	0.0012	0.0080	19	< 0.00050	0.32	< 0.00020	0.039	0.0018	0.00062	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	8/20/2016	FC-CCR-MW66-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4	--	--	--	--	--	--	--	0.4	< 0.7	--
MW-66	URS	Downgradient	9/12/2016	FC-CCR-MW66-916	110	470	1,500	12	--	7.4	8,000	15,000	--	--	--	--	--	--	--	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	9/12/2016	FC-CCR-MW66-916	--	--	--	17	--	--	--	--	< 0.0025	< 0.0010	0.011	< 0.0010	< 0.00050	< 0.0025	0.0029	17	< 0.00050	0.27	< 0.00020	0.010	0.11	0.00088	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	9/12/2016	FC-CCR-MW66-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.9	--	--	--	--	--	--	--	0.9	2.0	--
MW-66	URS	Downgradient	10/19/2016	FC-CCR-MW66-1016	130	440	1,600	17	--	7.4	9,100	16,000	--	--	--	--	--	--	--	17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	10/19/2016	FC-CCR-MW66-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.0	--	--	--	--	--	--	--	0.9	2.1	--
MW-66	URS	Downgradient	2/1/2017	FC-CCR-MW66-117	130	470	1,800	18	--	7.5	10,000	16,000	--	--	--	--	--	--	--	18	--	--	--	--	--	--	--	240	< 6.0	< 6.0	240	< 6.0	2,300	40	--	--	500
MW-66	URS	Downgradient	2/1/2017	FC-CCR-MW66-117	--	--	--	19	--	--	--	--	< 0.0010	0.0014	0.021	< 0.0010	< 0.00010	0.0031	0.0064	19	< 0.00050	0.29	< 0.00020	0.020	0.0019	0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	2/1/2017	FC-CCR-MW66-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.0	--	--	--	--	--	--	--	1.2	2.8	--
MW-66	URS	Downgradient	4/16/2017	FC-CCR-MW66-41617	140	460	1,600	25	--	7.4	11,000	17,000	--	--	--	--	--	--	--	25	--	--	--	--	--	--	--	260	< 6.0	< 6.0	260	< 6.0	2,700	42	--	--	590
MW-66	URS	Downgradient	4/16/2017	FC-CCR-MW66-41617	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.8	--	--	--	--	--	--	--	1.4	2.4	--
MW-66	URS	Downgradient	4/16/2017	FC-CCR-MW66-41617	--	--	--	23	--	--	--	--	< 0.0040	< 0.0020	0.020	< 0.0010	< 0.00040	< 0.0020	0.0071	23	< 0.0020	0.31	< 0.00020	0.022	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	5/1/2017	FC-CCR-MW66-5117	--	--	--	32	--	--	--	--	< 0.0010	0.0018	0.020	< 0.0010	< 0.00010	< 0.0010	0.0073	32	< 0.00050	0.32	< 0.00020	0.023	0.0022	0.00033	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	5/1/2017	FC-CCR-MW66-5117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.9	--	--	--	--	--	--	--	1.3	1.6	--
MW-66	URS	Downgradient	5/29/2017	FC-CCR-MW66-52917	--	--	--	25	--	--	--	--	< 0.010	< 0.0050	0.022	< 0.0010	< 0.0010	< 0.0050	0.0077	25	< 0.0050	0.30	< 0.00020	0.023	< 0.0050	< 0.0010	--	--	--	--	--	--	--	--	--	--	--

Groundwater Sampling Results for the URS Monitoring Wells

					Appendix III Constituents								Appendix IV Constituents															Additional Analyses									
				Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Magnesium	Potassium	Radium 226	Radium 228	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L
				URS BTV (applicable to downgradient wells)	*1.9*	*540*	*710*	*<RL*	*LPL and UPL*	*LPL and UPL*	*13,000*	*20,000*	*0.01*	*0.13*	*0.051*	*0.001*	*0.001*	*0.01*	*0.016*	*4*	*0.005*	*0.8*	*0.0002*	*0.011*	*0.45*	*0.002*	*5*	--	--	--	--	--	--	--	--	--	--
				URS GWPS (applicable to downgradient wells)	--	--	--	--	--	--	--	--	*0.01*	*0.13*	*2*	*0.004*	*0.005*	*0.1*	*0.016*	*4*	*0.015*	*0.8*	*0.002*	*0.1*	*0.45*	*0.002*	*5.4*	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	5/29/2017	FC-CCR-MW66-52917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--	--	--	0.8	2.0	--
MW-66	URS	Downgradient	6/21/2017	FC-CCR-MW66-62117	130	450	1,700	--	--	7.3	11,000	18,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	270	< 6.0	< 6.0	270	< 6.0	2,700	43	--	--	600
MW-66	URS	Downgradient	6/21/2017	FC-CCR-MW66-62117	--	--	--	24	--	--	--	--	< 0.0010	0.0028	0.022	< 0.0010	< 0.00010	0.00088	0.0074	24	< 0.00050	0.32	< 0.00020	0.023	0.0022	0.00041	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	6/21/2017	FC-CCR-MW66-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.7	--	--	--	--	--	--	--	1.2	2.5	--
MW-66	URS	Downgradient	7/21/2017	FC-CCR-MW66-72117	140	450	1,700	25	--	7.3	12,000	19,000	--	--	--	--	--	--	--	25	--	--	--	--	--	--	--	260	< 6.0	< 6.0	260	< 6.0	2,600	44	--	--	620
MW-66	URS	Downgradient	7/21/2017	FC-CCR-MW66-72117	--	--	--	--	--	--	--	--	< 0.0040	< 0.0020	0.020	< 0.0010	< 0.00040	< 0.0020	0.0065	--	< 0.0020	< 0.80	< 0.00020	0.021	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	7/21/2017	FC-CCR-MW66-72117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	< 0.5	1.2	--
MW-66	URS	Downgradient	8/9/2017	FC-CCR-MW66-8917	140	460	1,700	--	--	7.4	12,000	19,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	260	< 6.0	< 6.0	260	< 6.0	2,700	44	--	--	640
MW-66	URS	Downgradient	8/9/2017	FC-CCR-MW66-8917	--	--	--	26	--	--	--	--	< 0.010	< 0.0020	0.019	< 0.0010	< 0.0010	< 0.0040	0.0072	26	< 0.0050	0.34	< 0.00020	0.022	< 0.0020	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	8/9/2017	FC-CCR-MW66-8917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.2	--	--	--	--	--	--	--	0.6	2.6	--
MW-66	URS	Downgradient	8/16/2017	FC-CCR-MW66-81617	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5	--	--	--	--	--	--	--	0.6	1.9	--
MW-66	URS	Downgradient	8/16/2017	FC-CCR-MW66-81617	150	510	1,700	25	--	7.5	11,000	19,000	--	--	--	--	--	--	--	25	--	--	--	--	--	--	--	260	< 6.0	< 6.0	260	< 6.0	2,500	50	--	--	690
MW-66	URS	Downgradient	9/9/2017	FC-CCR-MW66-9917	140	480	1,800	--	--	7.3	12,000	19,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	260	< 6.0	< 6.0	260	< 6.0	2,600	43	--	--	640
MW-66	URS	Downgradient	9/9/2017	FC-CCR-MW66-9917	--	--	--	26	--	--	--	--	< 0.0040	< 0.0020	0.019	< 0.0010	< 0.00040	< 0.0040	0.0069	26	< 0.0020	0.32	< 0.00020	0.021	< 0.0020	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	9/9/2017	FC-CCR-MW66-9917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5	--	--	--	--	--	--	--	0.9	1.6	--
MW-66	URS	Downgradient	10/13/2017	FC-CCR-MW66-101317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.1	--	--	--	--	--	--	--	1.9	3.2	--
MW-66	URS	Downgradient	10/13/2017	FC-CCR-MW66-101317	150	440	2,000	26	--	7.3	13,000	18,000	< 0.0010	0.0021	0.021	< 0.0010	< 0.00010	< 0.0010	0.0075	26	< 0.00050	0.34	< 0.00020	0.023	0.0021	0.00036	--	270	< 6.0	< 6.0	270	< 6.0	2,600	45	--	--	700
MW-66	URS	Downgradient	11/30/2017	FC-CCR-MW66-113017	140	500	1,900	26	--	7.3	13,000	19,000	--	--	--	--	--	--	--	26	--	--	--	--	--	--	--	270	< 6.0	< 6.0	270	< 6.0	2,900	48	--	--	770
MW-66	URS	Downgradient	3/16/2018	FC-CCR-MW66-31618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1.5	--	--	--	--	--	--	--	< 1.5	< 1.5	--
MW-66	URS	Downgradient	3/16/2018	*DUP* FC-CCR-FD01-31618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.0	--	--	--	--	--	--	--	1.4	2.6	--
MW-66	URS	Downgradient	5/31/2018	FC-CCR-MW-66-53118	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	1.1	1.0	--
MW-66	URS	Downgradient	5/31/2018	FC-CCR-MW-66-53118	150	440	1,800	25	--	7.2	12,000	19,000	--	< 0.010	0.020	--	--	--	0.010	25	--	0.36	< 0.00020	0.015	< 0.010	0.0025	--	300	< 6.0	< 6.0	300	< 6.0	2,800	39	--	--	630
MW-66	URS	Downgradient	11/2/2018	FC-CCR-MW66-11218	140	470	1,800	--	--	7.3	12,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	11/2/2018	FC-CCR-MW66-11218	--	--	--	--	--	--	--	--	--	0.0015	0.023	--	--	--	0.012	--	--	0.38	--	0.019	0.0020	0.0011	2.9	--	--	--	--	--	--	--	2.0	0.9	--
MW-66	URS	Downgradient	3/18/2019	FC-CCR-MW66-031819	--	--	--	23	--	--	--	--	< 0.0010	0.0012	0.023	< 0.0010	0.00016	0.0010	0.017	23	< 0.00050	0.37	< 0.00020	0.016	0.0024 J	0.0011	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	3/18/2019	FC-CCR-MW66-031819	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	< 0.5	1.1	--
MW-66	URS	Downgradient	5/7/2019	FC-CCR-MW66-5719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5	--	--	--	--	--	--	--	< 0.4	2.5	--
MW-66	URS	Downgradient	12/3/2019	FC-CCR-MW66-120319	130	430	1,800	22	--	7.2 J	12,000	19,000	< 0.0020	< 0.0020	0.024	< 0.0010	< 0.00020	< 0.0040	0.012	22	< 0.0010	0.32	< 0.00020	0.023	< 0.0020	0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	12/3/2019	*DUP* FC-CCR-FD02-120319	150	460	1,800	22	--	7.3 J	14,000	19,000	< 0.0020	0.0013	0.021	< 0.0010	< 0.00020	< 0.0040	0.011	22	< 0.0010	0.33	< 0.00020	0.020	0.0020	0.00083	--	--	--	--	--	--	--	--	--	--	--
MW-66	URS	Downgradient	6/18/2020	FC-CCR-MW66-0620	140	450	1,700	17	6.85	7.3 J	12,000	20,000	< 0.002	0.0016	0.019 J	--	< 0.0002	< 0.002	0.011	17	< 0.001	0.81	--	0.019	0.0019	0.00094	1.5	--	--	--	--	--	--	--	1.5	< 0.8	--
MW-66	URS	Downgradient	11/5/2020	FC-CCR-MW66-1120	140	490	1,700	26 J	7.07	7.3 J	13,000	18,000	< 0.001 U	0.0037	0.016 J	< 0.001	< 0.00018 U	0.0014 J	0.01 J	26 J	< 0.0005	0.36	< 0.0002	0.0014 J	0.0041	0.00038 J	2.4	--	--	--	--	--	--	--	1.2	1.2	--
MW-66	URS	Downgradient	11/5/2020	*DUP* FC-CCR-FD02-1120	140	490	1,800	21 J	--	7.3 J	13,000	20,000	< 0.001 U	0.0031	0.021 J	< 0.001	< 0.00014 U	0.00082 J	0.00058 J	21 J	< 0.001	0.35	< 0.0002	0.0067 J	0.0053	0.0009 J	2.0	--	--	--	--	--	--	--	0.9	1.1	--
MW-66	URS	Downgradient	4/21/2021	FC-CCR-MW66-0421	150	500	1,700	19	7.24	7.4 J	12,000	19,000 J	< 0.0004 U	0.0014 J	0.021	< 0.001	0.00013 J	< 0.004	0.010	19	< 0.002	0.32	< 0.0002	0.022	0.0028	0.00082	2.5	--	--	--	--	--	--	--	0.9	1.6	--
MW-66	URS	Downgradient	11/12/2021	FC-CCR-MW66-1121	140	460	1,700	20	6.98	7.4 J	12,000	18,000	0.00012 J	< 0.001	0.022	<0.001	0.000068 J	< 0.002	0.0066	20	< 0.001	0.33	< 0.0002	0.021	0.0019	0.00089	2.0	--	--	--	--	--	--	--	1.1	0.9	--
MW-66	URS	Downgradient	05/20/2022	FC-CCR-MW66-05222	140	450	1,500	16	7.18	7.45 J	11,000	17,000	< 0.002	< 0.001	0.025	< 0.001	< 0.0002	< 0.002	0.0063	16	< 0.001	0.35	< 0.0002	0.019	0.0033	0.00066	1.0	--	--	--	--	--	--	--	1.0	<0.7	--
MW-66	URS	Downgradient	11/13/2022	FC-CCR-MW66-1122	130	480	1,600	16	7.08	7.3 J	11,000	19,000	< 0.001	0.0013	0.020	< 0.001	< 0.0001	0.0010	0.015	16	< 0.0005	0.30	< 0.0002	0.019	0.0025	0.00099	3.2	--	--	--	--	--	--	--	0.5	2.7	--
MW-67	URS	Downgradient	11/4/2015	FC-CCR-MW67-110415	75	330	990	18	--	--	6,900	11,000	0.00019	0.00099	0.017	0.00017	0.00018	0.00078	0.0078	18	0.00017	0.25	< 0.00020	0.050	0.0053	0.00047	--	260	< 5.0	--	260	--	1,400	23	--	--	270
MW-67	URS	Downgradient	11/4/2015	FC-CCR-MW67-110415	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.846	1.83	--
MW-67	URS	Downgradient	4/27/2016	FC-CCR-MW-67-042716	--	--	--	19	--	--	--	--	< 0.0025	0.0025	0.018	< 0.0010	< 0.00010	0.00057	0.0028	19	< 0.00050	0.31	< 0.00020	0.044	0.043	0.00038	2.1	--	--	--	--	--	--	--	0.4	1.7	--
MW-67	URS	Downgradient	4/27/2016	FC-CCR-DUP2-042716	--	--	--	21	--	--	--	--	< 0.0025	0.0029	0.017	< 0.0010	< 0.00010	0.00069	0.0027	21	< 0.00050	0.32	< 0.00020	0.043	0.043	0.00037	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	6/6/2016	FC-CCR-MW67-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.0	--	--	--	--	--	--	--	0.8	1.2	--
MW-67	URS	Downgradient	6/6/2016	FC-CCR-MW67-616	90	490	1,600	24	--	7.27	7,000	13,000	0.00014	0.0030	0.018	< 0.0010	< 0.00010	< 0.00050	0.0025	24	< 0.00050	0.30	< 0.00020	0.041	0.044	0.00031	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	8/20/2016	FC-CCR-MW67-816	100	510	1,400	23	--	7.1	7,500	15,000	--	--	--	--	--	--	--	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	8/20/2016	FC-CCR-MW67-816	--	--	--	19	--	--	--	--	0.00021	0.0039	0.020	< 0.0010	0.00011	0.0010	0.0055	19	< 0.00050	0.36	< 0.00020	0.064	0.067	0.00031	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	8/20/2016	FC-CCR-MW67-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--	0.7	1.6	--
MW-67	URS	Downgradient	8/20/2016	FC-CCR-MW100-816	--	--	--	--	--	7.1	--	16,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	8/20/2016	FC-CCR-MW100-816	--	--	--	20	--	--	--	--	0.00029	0.0040	0.022	< 0.0010	< 0.00020	0.0016	0.0064	20	< 0.0010	0.35	< 0.00020	0.063	0.068	0.00034	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	8/20/2016	FC-CCR-MW100-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.0	--	--	--	--	--	--	--	0.9	2.1	--
MW-67	URS	Downgradient	9/13/2016	FC-CCR-MW67-916	110	510	1,500	23	--	7.3	7,900	16,000	--	--	--	--	--	--	--	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	9/13/2016	FC-CCR-MW67-916	--	--	--	17	--	--	--	--	< 0.0025	0.0023	0.021	< 0.0010	< 0.00050	< 0.0025	0.0057	17	< 0.00050	0.31	< 0.00020	0.045	0.059	< 0.00050	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	9/13/2016	FC-CCR-MW67-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	< 0.4	2.1	--
MW-67	URS	Downgradient	10/20/2016	FC-CCR-MW67-1016	120	480	1,500	16	--	7.3	8,300	16,000	--	--	--	--	--	--	--	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	10/20/2016	FC-CCR-MW67-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.1	--	--	--	--	--	--	--	1.2	2.9	--
MW-67	URS	Downgradient	2/1/2017	FC-CCR-MW67-117	120	510	1,800	16	--	7.5	9,400	16,000	--	--	--	--	--	--	--	16	--	--	--	--	--	--	--	350	< 6.0	< 6.0	350	< 6.0	2,300	30	--	--	470
MW-67	URS	Downgradient	2/1/2017	FC-CCR-MW67-117	--	--	--	16	--	--	--	--	< 0.0010	0.0033	0.019	< 0.0010	0.00015	0.00058	0.0058	16	< 0.00050	0.36	< 0.00020	0.046	0.064	0.00039	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	2/1/2017	FC-CCR-MW67-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.0	--	--	--	--	--	--	--	< 0.5	3.0	--
MW-67	URS	Downgradient	4/17/2017	FC-CCR-MW67-41717	130	500	1,700	22	--	7.3	10,000	17,000	--	--	--	--	--	--	--	22	--	--	--	--	--	--	--	390	< 6.0	< 6.0	390	< 6.0	2,600	33	--	--	570
MW-67	URS	Downgradient	4/17/2017	FC-CCR-MW67-41717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.2	--	--	--	--	--	--	--	1.0	2.2	--
MW-67	URS	Downgradient	4/17/2017	FC-CCR-MW67-41717	--	--	--	21	--	--	--	--	< 0.0040	0.0020	0.020	< 0.0010	< 0.00040	< 0.0020	0.0062	21	< 0.0020	0.42	< 0.00020	0.039	0.032	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	5/1/2017	FC-CCR-MW67-5117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.3	--	--	--	--	--	--	--	0.6	2.7	--
MW-67	URS	Downgradient	5/2/2017	FC-CCR-MW67-5217	--	--	--	28	--	--	--	--	< 0.0010	0.0027	0.019	< 0.0010	0.00015	< 0.0010	0.0065	28	< 0.00050	0.43	< 0.00020	0.041	0.048	0.00042	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	5/29/2017	FC-CCR-MW67-52917	--	--	--	21	--	--	--	--	< 0.010	< 0.0050	0.022	< 0.0010	< 0.0010	< 0.0050	0.0060	21	< 0.0050	0.38	< 0.00020	0.040	0.030	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	5/29/2017	FC-CCR-MW67-52917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2	--	--	--	--	--	--	--	0.8	1.4	--
MW-67	URS	Downgradient	6/21/2017	FC-CCR-MW67-62117	130	480	1,900	--	--	7.3	11,000	18,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	330	< 6.0	< 6.0	330	< 6.0	2,700	39	--	--	620
MW-67	URS	Downgradient	6/21/2017	FC-CCR-MW67-62117	--	--	--	21	--	--	--	--	< 0.0040	0.0020	0.020	< 0.0010	< 0.00040	< 0.0020	0.0049	21	< 0.0020	0.40	< 0.00020	0.039	0.024	0.00057	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	6/21/2017	FC-CCR-MW67-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.2	--	--	--	--	--	--	--	1.3	2.9	--
MW-67	URS	Downgradient	7/21/2017	FC-CCR-MW67-72117	150	520	2,000	22	--	7.1	12,000	20,000	--	--	--	--	--	--	--	22	--	--	--	--	--	--	--	370	< 6.0	< 6.0	370	< 6.0	2,800	39	--	--	690
MW-67	URS	Downgradient	7/21/2017	FC-CCR-MW67-72117	--	--	--	--	--	--	--	--	< 0.0040	0.0027	0.020	< 0.0010	< 0.00040	< 0.0020	0.0053	--	< 0.0020	< 0.80	< 0.00020	0.039	0.053	0.00050	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	7/21/2017	FC-CCR-MW67-72117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	< 0.5	< 2.0	--
MW-67	URS	Downgradient	8/9/2017	FC-CCR-MW67-8917	160	490	2,200	--	--	7.4	13,000	21,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	320	< 6.0	< 6.0	320	< 6.0	3,000	42	--	--	720
MW-67	URS	Downgradient	8/9/2017	FC-CCR-MW67-8917	--	--	--	22	--	--	--	--	< 0.010	0.0023	0.020	< 0.0010	< 0.0010	< 0.0040	0.0045	22	< 0.0050	0.44	< 0.00020	0.038	0.021	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	8/9/2017	FC-CCR-MW67-8917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	< 0.4	1.4	--
MW-67	URS	Downgradient	8/16/2017	FC-CCR-MW67-81617	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6	--	--	--	--	--	--	--	0.5	2.1	--
MW-67	URS	Downgradient	8/16/2017	FC-CCR-MW67-81617	160	550	2,000	22	--	7.4	12,000	22,000	--	--	--	--	--	--	--	22	--	--	--	--	--	--	--	310	< 6.0	< 6.0	310	< 6.0	2,900	52	--	--	800
MW-67	URS	Downgradient	9/10/2017	FC-CCR-MW67-91017	150	500	2,100	--	--	7.3	13,000	21,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	340	< 6.0	< 6.0	340	< 6.0	3,000	41	--	--	720
MW-67	URS	Downgradient	9/10/2017	FC-CCR-MW67-91017	--	--	--	24	--	--	--	--	< 0.0040	< 0.0020	0.020	< 0.0010	< 0.00040	< 0.0040	0.0047	24	< 0.0020	0.43	< 0.00020	0.038	0.023	0.00056	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	9/10/2017	FC-CCR-MW67-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.1	--	--	--	--	--	--	--	0.9	2.2	--
MW-67	URS	Downgradient	10/13/2017	FC-CCR-MW67-101317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.7	--	--	--	--	--	--	--	0.7	2.0	--
MW-67	URS	Downgradient	10/13/2017	FC-CCR-MW67-101317	160	460	2,300	25	--	7.1	14,000	21,000	< 0.0010	0.0027	0.022	< 0.0010	0.00016	< 0.0010	0.0064	25	< 0.00050	0.49	< 0.00020	0.045	0.038	0.00054	--	380	< 6.0	< 6.0	380	< 6.0	2,900	39	--	--	770
MW-67	URS	Downgradient	11/29/2017	FC-CCR-MW67-112917	160	520	2,300	24	--	7.3	15,000	23,000	--	--	--	--	--	--	--	24	--	--	--	--	--	--	--	320	< 6.0	< 6.0	320	< 6.0	3,200	51	--	--	910
MW-67	URS	Downgradient	3/16/2018	FC-CCR-MW67-31618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9	--	--	--	--	--	--	--	< 1.2	0.9	--
MW-67	URS	Downgradient	6/2/2018	FC-CCR-MW-67-6218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	< 0.4	1.5	--
MW-67	URS	Downgradient	6/2/2018	FC-CCR-MW-67-6218	200	430	2,000	25	--	7.1	15,000	23,000	--	< 0.010	0.020	--	--	--	< 0.010	25	--	0.50	< 0.00020	0.041	< 0.010	< 0.0020	--	350	< 6.0	< 6.0	350	< 6.0	3,500	43	--	--	940
MW-67	URS	Downgradient	11/3/2018	FC-CCR-MW67-11318	170	470	2,000	16	--	7.4	13,000	19,000	--	--	--	--	--	--	--	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	11/3/2018	FC-CCR-MW67-11318	--	--	--	--	--	--	--	--	--	0.0016	0.017	--	--	--	0.0061	--	--	0.39	--	0.037	0.0043	0.00078	1.6	--	--	--	--	--	--	--	0.8	0.8	--
MW-67	URS	Downgradient	3/17/2019	FC-CCR-MW67-031719	--	--	--	15	--	--	--	--	< 0.0010	0.0016	0.014	< 0.0010	< 0.00010	< 0.0010	0.0058	15	< 0.00050	0.37	< 0.00020	0.036	0.0050	0.00086	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	3/17/2019	FC-CCR-MW67-031719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.6	--	--	--	--	--	--	--	1.3	3.3	--
MW-67	URS	Downgradient	5/7/2019	FC-CCR-MW67-5719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6	--	--	--	--	--	--	--	< 0.4	2.6	--
MW-67	URS	Downgradient	12/2/2019	FC-CCR-MW67-120219	150	450	1,900	14	--	7.4 J	13,000	20000 J	< 0.0020	0.0035	0.020	< 0.0010	< 0.00020	< 0.0040	0.0096	14	< 0.0010	0.37	< 0.00020	0.038	0.0045	0.0011	--	--	--	--	--	--	--	--	--	--	--
MW-67	URS	Downgradient	6/19/2020	FC-CCR-MW67-0620	160	440	1,900	12	7.14	7.5 J	13,000	20,000	< 0.002	0.0017	0.012	--	< 0.0002	< 0.002	0.0052	12	< 0.001	0.90	--	0.039	0.0040	0.00098	3.2	--	--	--	--	--	--	--	0.8	2.4	--
MW-67	URS	Downgradient	11/4/2020	FC-CCR-MW67-1120	160	470	2,000	15	7.30	7.4 J	14,000	20,000	0.00027 J	0.0027 J	0.0079 J	< 0.001	< 0.00025 U	< 0.001	0.0009 J	15	< 0.0005	0.40	< 0.0002	0.011 J	0.0054	0.00031 J	3.6	--	--	--	--	--	--	--	0.7	2.9	--
MW-67	URS	Downgradient	11/4/2020	*DUP* FC-CCR-FD01-1120	170	470	1,900	15	--	7.4 J	14,000	20,000	< 0.002	0.004 J	0.014 J	< 0.001	< 0.0002 U	0.0018 J	0.0078 J	15	< 0.001	0.40	< 0.0002	0.038 J	0.0069	0.0010 J	3.5	--	--	--	--	--	--	--	< 0.4	3.5	--
MW-67	URS	Downgradient	4/21/2021	FC-CCR-MW67-0421	160	490	1,800	12	7.31	7.4 J	13,000	19,000 J	< 0.0004 U	0.0018 J	0.019	< 0.001	0.00027 J	< 0.004	0.012	12	< 0.002	0.39	< 0.0002	0.044	0.0042	0.0011	4.4 J	--	--	--	--	--	--	--	1.3 J	3.1 J	--
MW-67	URS	Downgradient	4/21/2021	*DUP* FC-CCR-FD01-0421	160	490	1,800	12	7.31	7.4 J	13,000	20,000 J	< 0.0004 U	0.0020	0.018	< 0.001	0.00026 J	< 0.004	0.011	12	< 0.002	0.39	< 0.0002	0.041	0.0044	0.0011	2.0 J	--	--	--	--	--	--	--	<0.4 UJ	2.0 J	--
MW-67	URS	Downgradient	11/12/2021	FC-CCR-MW67-1121	170	460	2,100	13	6.81	7.5 J	15,000	21,000	0.000088	< 0.001	0.014	<0.001	0.00021	< 0.002	0.0069	13	< 0.001	0.41	< 0.0002 UJ	0.046	0.004	0.0013	3.8	--	--	--	--	--	--	--	1.1	2.7	--
MW-67	URS	Downgradient	05/21/2022	FC-CCR-MW67-0522	160	460	1,800	8.2	6.84	7.37 J	13,000	1,900	< 0.002	< 0.001	0.012	< 0.001	0.00022	< 0.002	0.0062	8.2	< 0.001	0.42	< 0.0002	0.034	0.0041	0.0011	1.8	--	--	--	--	--	--	--	0.7	1.1	--
MW-67	URS	Downgradient	11/16/2022	FC-CCR-MW67-1122	160	500	1,900	13	6.95	7.2 J	12,000	21,000	< 0.001	0.00067	0.024	< 0.001	0.00021	< 0.001	0.0049	13	< 0.0005	0.37	< 0.0002	0.029	0.0022	0.0010	2.2	--	--	--	--	--	--	--	0.4	1.8	--
MW-68	URS	Downgradient	11/6/2015	FC-CCR-MW68-110615	93	470	1,200	7.0	--	7.11	7,900	12,000	0.00045	0.0027	0.0093	0.00033	0.00046	0.0012	0.0053	7.0	0.00019	0.22	< 0.00020	0.010	0.045	0.00089	--	320	< 5.0	--	320	--	1,700	17	--	--	360
MW-68	URS	Downgradient	11/6/2015	FC-CCR-MW68-110615	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.552	0.8	--

Groundwater Sampling Results for the URS Monitoring Wells

					Appendix III Constituents								Appendix IV Constituents															Additional Analyses									
				Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Magnesium	Potassium	Radium 226	Radium 228	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L
				URS BTV (applicable to downgradient wells)	*1.9*	*540*	*710*	*<RL*	*LPL and UPL*	*LPL and UPL*	*13,000*	*20,000*	*0.01*	*0.13*	*0.051*	*0.001*	*0.001*	*0.01*	*0.016*	*4*	*0.005*	*0.8*	*0.0002*	*0.011*	*0.45*	*0.002*	*5*	--	--	--	--	--	--	--	--	--	--
				URS GWPS (applicable to downgradient wells)	--	--	--	--	--	--	--	--	*0.01*	*0.13*	*2*	*0.004*	*0.005*	*0.1*	*0.016*	*4*	*0.015*	*0.8*	*0.002*	*0.1*	*0.45*	*0.002*	*5.4*	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	4/26/2016	FC-CCR-MW-68-042616	110	460	1,300	8.0	--	--	7,700	14,000	< 0.0025	0.0032	0.013	< 0.0010	< 0.00010	0.0012	0.0030	8.0	0.00052	0.31	< 0.00020	0.0075	0.10	0.00056	1.5	--	--	--	--	--	--	--	0.6	0.9	--
MW-68	URS	Downgradient	6/5/2016	FC-CCR-MW68-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.9	--	--	--	--	--	--	--	0.8	2.1	--
MW-68	URS	Downgradient	6/5/2016	FC-CCR-MW68-616	100	450	1,500	10	--	7.05	8,000	15,000	0.00011	0.0032	0.0099	< 0.0010	< 0.00010	0.00073	0.0042	10	< 0.00050	0.27	< 0.00020	0.010	0.11	0.00066	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	8/20/2016	FC-CCR-MW68-816	120	460	1,300	8.6	--	7.0	8,100	16,000	--	--	--	--	--	--	--	8.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	8/20/2016	FC-CCR-MW68-816	--	--	--	7.5	--	--	--	--	0.00012	0.0065	0.0078	< 0.0010	0.00016	0.00072	0.0020	7.5	< 0.00050	0.35	< 0.00020	0.0095	0.22	0.00063	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	8/20/2016	FC-CCR-MW68-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--	--	0.5	1.4	--
MW-68	URS	Downgradient	9/13/2016	FC-CCR-MW68-916	120	480	1,400	9.7	--	7.1	8,500	16,000	--	--	--	--	--	--	--	9.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	9/13/2016	FC-CCR-MW68-916	--	--	--	5.7	--	--	--	--	< 0.0025	0.0016	0.0074	< 0.0010	< 0.00050	< 0.0025	0.0025	5.7	< 0.00050	0.29	< 0.00020	0.012	0.15	0.0012	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	9/13/2016	FC-CCR-MW68-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.8	--	--	--	--	--	--	--	1.1	2.7	--
MW-68	URS	Downgradient	10/20/2016	FC-CCR-MW68-1016	120	430	1,400	6.8	--	7.1	11,000	16,000	--	--	--	--	--	--	--	6.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	10/20/2016	FC-CCR-MW68-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	0.5	0.9	--
MW-68	URS	Downgradient	2/1/2017	FC-CCR-MW68-117	120	450	1,600	6.4	--	7.5	10,000	16,000	--	--	--	--	--	--	--	6.4	--	--	--	--	--	--	--	400	< 6.0	< 6.0	400	< 6.0	2,300	21	--	--	570
MW-68	URS	Downgradient	2/1/2017	FC-CCR-MW68-117	--	--	--	6.8	--	--	--	--	< 0.0010	0.0048	0.0082	< 0.0010	0.00012	0.00081	0.0034	6.8	< 0.00050	0.32	< 0.00020	0.010	0.17	0.00080	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	2/1/2017	FC-CCR-MW68-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	< 0.4	2.1	--
MW-68	URS	Downgradient	4/17/2017	FC-CCR-MW68-41717	130	450	1,400	10	--	7.1	9,900	16,000	--	--	--	--	--	--	--	10	--	--	--	--	--	--	--	450	< 6.0	< 6.0	450	< 6.0	2,400	20	--	--	620
MW-68	URS	Downgradient	4/17/2017	FC-CCR-MW68-41717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2	--	--	--	--	--	--	--	0.4	1.8	--
MW-68	URS	Downgradient	4/17/2017	FC-CCR-MW68-41717	--	--	--	9.7	--	--	--	--	< 0.0040	0.0051	0.0078	< 0.0010	< 0.00040	< 0.0020	0.0028	9.7	< 0.0020	0.38	< 0.00020	0.0080	0.16	0.00067	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	5/1/2017	FC-CCR-MW68-5117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	< 0.3	1.2	--
MW-68	URS	Downgradient	5/2/2017	FC-CCR-MW68-5217	--	--	--	18	--	--	--	--	< 0.0010	0.0084	0.0068	< 0.0010	< 0.00010	< 0.0010	0.0024	18	< 0.00050	0.37	< 0.00020	0.0073	0.28	0.00068	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	5/29/2017	FC-CCR-MW68-52917	--	--	--	8.3	--	--	--	--	< 0.010	0.0085	0.0086	< 0.0010	< 0.0010	< 0.0050	< 0.0050	8.3	< 0.0050	0.32	< 0.00020	0.0054	0.29	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	5/29/2017	FC-CCR-MW68-52917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-68	URS	Downgradient	6/21/2017	FC-CCR-MW68-62117	120	470	1,400	--	--	7.1	9,700	17,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	560	< 6.0	< 6.0	560	< 6.0	2,400	17	--	--	640
MW-68	URS	Downgradient	6/21/2017	FC-CCR-MW68-62117	--	--	--	8.7	--	--	--	--	< 0.0040	0.0079	0.0075	< 0.0010	< 0.00040	< 0.0020	< 0.0020	8.7	< 0.0020	0.33	< 0.00020	0.0051	0.28	0.00065	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	6/21/2017	FC-CCR-MW68-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2	--	--	--	--	--	--	--	0.4	1.8	--
MW-68	URS	Downgradient	7/21/2017	FC-CCR-MW68-72117	130	470	1,500	9.6	--	7.0	10,000	17,000	--	--	--	--	--	--	--	9.6	--	--	--	--	--	--	--	550	< 6.0	< 6.0	550	< 6.0	2,300	17	--	--	670
MW-68	URS	Downgradient	7/21/2017	FC-CCR-MW68-72117	--	--	--	--	--	--	--	--	< 0.0040	0.0081	0.0066	< 0.0010	< 0.00040	< 0.0020	0.0017	--	< 0.0020	< 0.80	< 0.00020	0.0058	0.30	0.00062	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	7/21/2017	FC-CCR-MW68-72117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9	--	--	--	--	--	--	--	< 0.5	0.9	--
MW-68	URS	Downgradient	8/9/2017	FC-CCR-MW68-8917	120	460	1,600	--	--	7.2	11,000	18,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	500	< 6.0	< 6.0	500	< 6.0	2,500	20	--	--	640
MW-68	URS	Downgradient	8/9/2017	FC-CCR-MW68-8917	--	--	--	11	--	--	--	--	< 0.010	0.0055	0.0074	< 0.0010	< 0.0010	< 0.0040	0.0025	11	< 0.0050	0.37	< 0.00020	0.0067	0.27	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	8/9/2017	FC-CCR-MW68-8917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.3	--	--	--	--	--	--	--	< 0.5	2.8	--
MW-68	URS	Downgradient	8/16/2017	FC-CCR-MW68-81617	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2	--	--	--	--	--	--	--	< 0.4	2.2	--
MW-68	URS	Downgradient	8/16/2017	FC-CCR-MW68-81617	130	510	1,500	11	--	7.2	9,900	17,000	--	--	--	--	--	--	--	11	--	--	--	--	--	--	--	510	< 6.0	< 6.0	510	< 6.0	2,300	23	--	--	630
MW-68	URS	Downgradient	9/10/2017	FC-CCR-MW68-91017	130	480	1,500	--	--	7.0	10,000	18,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	530	< 6.0	< 6.0	530	< 6.0	2,300	18	--	--	610
MW-68	URS	Downgradient	9/10/2017	FC-CCR-MW68-91017	--	--	--	11	--	--	--	--	< 0.0040	0.0086	0.0075	< 0.0010	< 0.00040	< 0.0040	0.0023	11	< 0.0020	0.34	< 0.00020	0.0063	0.29	0.00083	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	9/10/2017	FC-CCR-MW68-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.9	--	--	--	--	--	--	--	0.5	2.4	--
MW-68	URS	Downgradient	10/13/2017	FC-CCR-MW68-101317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.9	--	--	--	--	--	--	--	1.3	1.6	--
MW-68	URS	Downgradient	10/13/2017	FC-CCR-MW68-101317	140	450	1,800	10	--	7.1	11,000	17,000	< 0.0010	0.0097	0.0078	< 0.0010	0.00011	< 0.0010	0.0019	10	< 0.00050	0.37	< 0.00020	0.0063	0.37	0.00069	--	550	< 6.0	< 6.0	550	< 6.0	2,200	18	--	--	650
MW-68	URS	Downgradient	11/30/2017	FC-CCR-MW68-113017	130	520	1,400	10	--	7.1	9,700	16,000	--	--	--	--	--	--	--	10	--	--	--	--	--	--	--	580	< 6.0	< 6.0	580	< 6.0	2,200	16	--	--	680
MW-68	URS	Downgradient	11/30/2017	*DUP* FC-CCR-FD01-113017	130	520	1,400	10	--	7.1	9,400	16,000	--	--	--	--	--	--	--	10	--	--	--	--	--	--	--	580	< 6.0	< 6.0	580	< 6.0	2,200	16	--	--	680
MW-68	URS	Downgradient	3/16/2018	FC-CCR-MW68-31618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	< 1.2	1.0	--
MW-68	URS	Downgradient	6/2/2018	FC-CCR-MW-68-6218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6	--	--	--	--	--	--	--	0.6	< 0.6	--
MW-68	URS	Downgradient	6/2/2018	FC-CCR-MW-68-6218	130	430	1,500	12	--	6.9	10,000	17,000	--	< 0.010	< 0.010	--	--	--	< 0.010	12	--	0.38	< 0.00020	< 0.010	0.24	< 0.0020	--	570	< 6.0	< 6.0	570	< 6.0	2,300	17	--	--	650
MW-68	URS	Downgradient	11/3/2018	FC-CCR-MW68-11318	150	460	1,500	12	--	7.2	11,000	18,000	--	--	--	--	--	--	--	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	11/3/2018	FC-CCR-MW68-11318	--	--	--	--	--	--	--	--	--	0.0030	0.0081	--	--	--	0.0038	--	--	0.42	--	0.0078	0.11	0.0016	1.9	--	--	--	--	--	--	--	0.6	1.3	--
MW-68	URS	Downgradient	3/17/2019	FC-CCR-MW68-031719	--	--	--	9.2	--	--	--	--	< 0.0010	0.0035	0.0084	< 0.0010	0.00014	< 0.0010	0.0026	9.2	< 0.00050	0.37	< 0.00020	0.0067	0.14	0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	3/17/2019	FC-CCR-MW68-031719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6	--	--	--	--	--	--	--	< 0.5	2.6	--
MW-68	URS	Downgradient	5/7/2019	FC-CCR-MW68-5719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	< 0.5	2.1	--
MW-68	URS	Downgradient	12/2/2019	FC-CCR-MW68-120219	94	450	1,200	10	--	7.0 J	9,600	15000 J	< 0.0020	0.0058	0.068	< 0.0010	< 0.00020	< 0.0040	0.0037	10	0.0013	0.37	< 0.00020	0.0068	0.12	0.0017	--	--	--	--	--	--	--	--	--	--	--
MW-68	URS	Downgradient	6/19/2020	FC-CCR-MW68-0620	110	460	5,000	7.7	6.75	7.3 J	9,000	16,000	< 0.002	0.0048	0.0093	--	< 0.0002	< 0.002	0.0053	7.7	< 0.001	0.85	--	0.0063	0.13	0.0015	0.9	--	--	--	--	--	--	--	< 0.4	0.9	--
MW-68	URS	Downgradient	11/4/2020	FC-CCR-MW68-1120	110	470	1,300	10	6.86	7.2 J	11,000	17,000	< 0.001 U	0.0038	0.012	< 0.001	< 0.00012 U	0.0012	0.00066	10	< 0.0005	0.41	< 0.0002	0.0045	0.069	< 0.0001 U	1.8	--	--	--	--	--	--	--	0.7	1.1	--
MW-68	URS	Downgradient	4/22/2021	FC-CCR-MW68-0421	110	500	1,200	8.6	6.94	7.3 J	11,000	17,000	< 0.0004 U	0.0017 J	0.011	< 0.001	0.00016 J	< 0.004	0.0076	8.6	< 0.002	0.41	< 0.0002	0.0079	0.036	0.0016	0.9	--	--	--	--	--	--	--	<0.4	0.9	--
MW-68	URS	Downgradient	11/12/2021	FC-CCR-MW68-1121	110	460	1,100	10	6.67	7.3 J	13,000	10,000	< 0.002	< 0.001	0.0097 J	<0.001	0.00009 J	< 0.002	0.0084	10	< 0.001	0.43	< 0.0002	0.0059	0.0069	0.0018	1.5	--	--	--	--	--	--	--	0.7	0.8	--
MW-68	URS	Downgradient	05/21/2022	FC-CCR-MW68-0522	110	450	1,000	7.5	6.55	7.47 J	11,000	18,000	< 0.002	< 0.001	0.017	< 0.001	< 0.0002	< 0.002	0.011	7.5	< 0.001	0.45	< 0.0002	0.0063	0.0060	0.0016	<0.7	--	--	--	--	--	--	--	<0.4	<0.7	--
MW-68	URS	Downgradient	11/13/2022	FC-CCR-MW68-1122	120	490	1,100	7.5	6.79	7.1 J	12,000	18,000	< 0.001	0.0012	0.017	< 0.001	< 0.0001	0.0011	0.0034	7.5	< 0.0005	0.40	< 0.0002	0.0054	0.011	0.0014	1.3	--	--	--	--	--	--	--	< 0.4	1.3	--
MW-69	URS	Downgradient	11/4/2015	FC-CCR-MW69-110415	80	490	1,000	9.8	--	--	6,600	10,000	0.00046	0.0026	0.013	0.00029	0.00031	0.00081	0.0035	9.8	0.00021	0.27	< 0.00020	0.015	0.010	0.00047	--	210	< 5.0	--	210	--	1,500	32	--	--	290
MW-69	URS	Downgradient	11/4/2015	FC-CCR-MW69-110415	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.29	1.88	--
MW-69	URS	Downgradient	4/26/2016	FC-CCR-MW-69-042616	95	480	1,200	13	--	--	7,100	13,000	< 0.0025	0.0031	0.013	< 0.0010	< 0.00010	< 0.00050	0.0029	13	< 0.00050	0.31	< 0.00020	0.013	0.011	0.00028	3.1	--	--	--	--	--	--	--	0.8	2.3	--
MW-69	URS	Downgradient	4/26/2016	FC-CCR-DUP1-042616	97	490	1,200	13	--	--	7,200	13,000	< 0.0025	0.0031	0.013	< 0.0010	< 0.00010	0.00050	0.0029	13	< 0.00050	0.32	< 0.00020	0.014	0.011	0.00028	3.2	--	--	--	--	--	--	--	1.2	2.0	--
MW-69	URS	Downgradient	6/6/2016	FC-CCR-MW69-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.2	--	--	--	--	--	--	--	0.8	2.4	--
MW-69	URS	Downgradient	6/6/2016	FC-CCR-MW69-616	94	470	1,400	13	--	7.47	7,600	13,000	0.00021	0.0037	0.015	< 0.0010	< 0.00010	< 0.00050	0.0027	13	< 0.00050	0.27	< 0.00020	0.015	0.018	0.00022	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	8/21/2016	FC-CCR-MW69-816	110	480	1,300	16	--	7.4	8,500	16,000	--	--	--	--	--	--	--	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	8/21/2016	FC-CCR-MW69-816	--	--	--	13	--	--	--	--	0.00054	0.011	0.016	< 0.0010	< 0.00010	0.00076	0.0037	13	< 0.00050	0.37	< 0.00020	0.015	0.015	0.00024	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	8/21/2016	FC-CCR-MW69-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.9	--	--	--	--	--	--	--	1.2	2.7	--
MW-69	URS	Downgradient	9/13/2016	FC-CCR-MW69-916	110	500	1,400	16	--	7.1	8,700	17,000	--	--	--	--	--	--	--	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	9/13/2016	FC-CCR-MW69-916	--	--	--	11	--	--	--	--	< 0.0025	0.0093	0.016	< 0.0010	< 0.00050	< 0.0025	0.0042	11	< 0.00050	0.31	< 0.00020	0.015	0.012	< 0.00050	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	9/13/2016	FC-CCR-MW69-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.4	--	--	--	--	--	--	--	1.1	4.3	--
MW-69	URS	Downgradient	10/20/2016	FC-CCR-MW69-1016	120	450	1,400	9.0	--	7.4	9,800	18,000	--	--	--	--	--	--	--	9.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	10/20/2016	FC-CCR-MW69-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.5	--	--	--	--	--	--	--	1.8	3.7	--
MW-69	URS	Downgradient	2/1/2017	FC-CCR-MW69-117	130	460	1,500	11	--	7.6	12,000	18,000	--	--	--	--	--	--	--	11	--	--	--	--	--	--	--	320	< 6.0	< 6.0	320	< 6.0	2,600	40	--	--	550
MW-69	URS	Downgradient	2/1/2017	FC-CCR-MW69-117	--	--	--	12	--	--	--	--	< 0.0010	0.0042	0.017	< 0.0010	< 0.00010	0.00083	0.0046	12	< 0.00050	0.40	< 0.00020	0.016	0.015	0.00017	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	2/1/2017	FC-CCR-MW69-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.4	--	--	--	--	--	--	--	1.4	4.0	--
MW-69	URS	Downgradient	4/17/2017	FC-CCR-MW69-41717	130	470	1,400	17	--	7.5	11,000	18,000	--	--	--	--	--	--	--	17	--	--	--	--	--	--	--	360	< 6.0	< 6.0	360	< 6.0	2,800	40	--	--	630
MW-69	URS	Downgradient	4/17/2017	FC-CCR-MW69-41717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.0	--	--	--	--	--	--	--	1.6	4.4	--
MW-69	URS	Downgradient	4/17/2017	FC-CCR-MW69-41717	--	--	--	17	--	--	--	--	< 0.0040	0.0066	0.016	< 0.0010	< 0.00040	< 0.0020	0.0045	17	< 0.0020	0.45	< 0.00020	0.014	0.011	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	4/17/2017	*DUP* FC-CCR-FD02-41717	140	470	1,400	17	--	7.5	12,000	18,000	--	--	--	--	--	--	--	17	--	--	--	--	--	--	--	340	< 6.0	< 6.0	340	< 6.0	2,700	41	--	--	640
MW-69	URS	Downgradient	4/17/2017	*DUP* FC-CCR-FD02-41717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.9	--	--	--	--	--	--	--	1.4	3.5	--
MW-69	URS	Downgradient	4/17/2017	*DUP* FC-CCR-FD02-41717	--	--	--	17	--	--	--	--	< 0.0040	0.0063	0.016	< 0.0010	< 0.00040	< 0.0020	0.0044	17	< 0.0020	0.44	< 0.00020	0.014	0.010	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	5/2/2017	FC-CCR-MW69-5217	--	--	--	24	--	--	--	--	< 0.0010	0.0087	0.015	< 0.0010	< 0.00010	< 0.0010	0.0043	24	< 0.00050	0.45	< 0.00020	0.014	0.019	0.00017	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	5/2/2017	FC-CCR-MW69-5217	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.0	--	--	--	--	--	--	--	1.5	3.5	--
MW-69	URS	Downgradient	5/29/2017	FC-CCR-MW69-52917	--	--	--	16	--	--	--	--	< 0.010	0.0076	0.018	< 0.0010	< 0.0010	< 0.0050	< 0.0050	16	< 0.0050	0.37	< 0.00020	0.016	0.013	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	5/29/2017	FC-CCR-MW69-52917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.6	--	--	--	--	--	--	--	1.6	2.0	--
MW-69	URS	Downgradient	6/21/2017	FC-CCR-MW69-62117	120	460	1,400	--	--	7.5	10,000	16,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	< 6.0	< 6.0	290	< 6.0	2,400	39	--	--	590
MW-69	URS	Downgradient	6/21/2017	FC-CCR-MW69-62117	--	--	--	14	--	--	--	--	< 0.0040	0.0063	0.016	< 0.0010	< 0.00040	< 0.0020	0.0041	14	< 0.0020	0.36	< 0.00020	0.017	0.017	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	6/21/2017	FC-CCR-MW69-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.3	--	--	--	--	--	--	--	1.7	2.6	--
MW-69	URS	Downgradient	7/21/2017	FC-CCR-MW69-72117	150	470	1,600	18	--	7.4	13,000	19,000	--	--	--	--	--	--	--	18	--	--	--	--	--	--	--	330	< 6.0	< 6.0	330	< 6.0	2,700	46	--	--	700
MW-69	URS	Downgradient	7/21/2017	FC-CCR-MW69-72117	--	--	--	--	--	--	--	--	< 0.0040	0.0083	0.016	< 0.0010	< 0.00040	< 0.0020	0.0048	--	< 0.0020	< 0.80	< 0.00020	0.014	0.013	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	7/21/2017	FC-CCR-MW69-72117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.4	--	--	--	--	--	--	--	< 0.5	3.4	--
MW-69	URS	Downgradient	8/9/2017	FC-CCR-MW69-8917	140	470	1,600	--	--	7.5	12,000	19,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	310	< 6.0	< 6.0	310	< 6.0	2,800	44	--	--	690
MW-69	URS	Downgradient	8/9/2017	FC-CCR-MW69-8917	--	--	--	17	--	--	--	--	< 0.010	0.0066	0.016	< 0.0010	< 0.0010	< 0.0040	0.0044	17	< 0.0050	0.44	< 0.00020	0.016	0.014	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	8/9/2017	FC-CCR-MW69-8917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.1	--	--	--	--	--	--	--	1.6	3.5	--
MW-69	URS	Downgradient	8/9/2017	*DUP* FC-CCR-FD01-8917	150	470	1,500	--	--	7.5	12,000	19,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	300	< 6.0	< 6.0	300	< 6.0	2,800	43	--	--	680
MW-69	URS	Downgradient	8/9/2017	*DUP* FC-CCR-FD01-8917	--	--	--	17	--	--	--	--	< 0.010	0.0072	0.013	< 0.0010	< 0.0010	0.0059	0.0044	17	< 0.0050	0.43	< 0.00020	0.014	0.016	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	8/9/2017	*DUP* FC-CCR-FD01-8917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.7	--	--	--	--	--	--	--	1.1	2.6	--
MW-69	URS	Downgradient	8/16/2017	FC-CCR-MW69-81617	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.6	--	--	--	--	--	--	--	1.0	2.6	--
MW-69	URS	Downgradient	8/16/2017	FC-CCR-MW69-81617	130	520	1,500	17	--	7.6	11,000	20,000	--	--	--	--	--	--	--	17	--	--	--	--	--	--	--	300	< 6.0	< 6.0	300	< 6.0	2,500	49	--	--	710
MW-69	URS	Downgradient	9/10/2017	FC-CCR-MW69-91017	150	490	1,600	--	--	7.5	13,000	18,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	340	< 6.0	< 6.0	340	< 6.0	2,700	46	--	--	720
MW-69	URS	Downgradient	9/10/2017	FC-CCR-MW69-91017	--	--	--	20	--	--	--	--	< 0.0040	0.0073	0.018	< 0.0010	< 0.00040	< 0.0040	0.0043	20	0.0060	0.46	< 0.00020	0.016	0.014	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	9/10/2017	FC-CCR-MW69-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.9	--	--	--	--	--	--	--	2.2	3.7	--
MW-69	URS	Downgradient	9/10/2017	*DUP* FC-CCR-FD02-91017	150	480	1,600	--	--	7.5	13,000	20,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	340	< 6.0	< 6.0	340	< 6.0	2,800	45	--	--	720
MW-69	URS	Downgradient	9/10/2017	*DUP* FC-CCR-FD02-91017	--	--	--	20	--	--	--	--	< 0.0040	0.0075	0.018	< 0.0010	< 0.00040	< 0.0040	0.0044	20	< 0.0020	0.46	< 0.00020	0.017	0.013	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	9/10/2017	*DUP* FC-CCR-FD02-91017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.9	--	--	--	--	--	--	--	1.1	3.8	--

Groundwater Sampling Results for the URS Monitoring Wells

					Appendix III Constituents								Appendix IV Constituents															Additional Analyses									
				Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Magnesium	Potassium	Radium 226	Radium 228	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L
				URS BTV (applicable to downgradient wells)	*1.9*	*540*	*710*	*<RL*	*LPL and UPL*	*LPL and UPL*	*13,000*	*20,000*	*0.01*	*0.13*	*0.051*	*0.001*	*0.001*	*0.01*	*0.016*	*4*	*0.005*	*0.8*	*0.0002*	*0.011*	*0.45*	*0.002*	*5*	--	--	--	--	--	--	--	--	--	--
				URS GWPS (applicable to downgradient wells)	--	--	--	--	--	--	--	--	*0.01*	*0.13*	*2*	*0.004*	*0.005*	*0.1*	*0.016*	*4*	*0.015*	*0.8*	*0.002*	*0.1*	*0.45*	*0.002*	*5.4*	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	10/13/2017	FC-CCR-MW69-101317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**6.7**	--	--	--	--	--	--	--	**1.7**	**5.0**	--
MW-69	URS	Downgradient	10/13/2017	FC-CCR-MW69-101317	**150**	**430**	**1,600**	**20**	--	**7.5**	**13,000**	**19,000**	< 0.0010	**0.0078**	**0.019**	< 0.0010	< 0.00010	< 0.0010	**0.0051**	**20**	< 0.00050	**0.50**	< 0.00020	**0.015**	**0.023**	**0.00022**	--	**360**	< 6.0	< 6.0	**360**	< 6.0	**2,600**	**43**	--	--	**720**
MW-69	URS	Downgradient	11/29/2017	FC-CCR-MW69-112917	**150**	**500**	**1,600**	**21**	--	**7.4**	**13,000**	**20,000**	--	--	--	--	--	--	--	**21**	--	--	--	--	--	--	--	**330**	< 6.0	< 6.0	**330**	< 6.0	**2,800**	**51**	--	--	**830**
MW-69	URS	Downgradient	3/16/2018	FC-CCR-MW69-31618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**5.4**	--	--	--	--	--	--	--	**1.6**	**3.8**	--
MW-69	URS	Downgradient	6/2/2018	FC-CCR-MW-69-6218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**4.6**	--	--	--	--	--	--	--	**1.3**	**3.3**	--
MW-69	URS	Downgradient	6/2/2018	FC-CCR-MW-69-6218	**120**	**430**	**1,400**	**21**	--	**7.3**	**12,000**	**18,000**	--	< 0.010	**0.016**	--	--	--	< 0.010	**21**	--	**0.49**	< 0.00020	**0.016**	**0.014**	< 0.0020	--	**360**	< 6.0	< 6.0	**360**	< 6.0	**2,600**	**38**	--	--	**680**
MW-69	URS	Downgradient	6/2/2018	*DUP* FC-CCR-FD02-6218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.1**	--	--	--	--	--	--	--	**0.9**	**2.2**	--
MW-69	URS	Downgradient	6/2/2018	*DUP* FC-CCR-FD02-6218	**130**	**430**	**1,300**	**21**	--	**7.3**	**12,000**	**18,000**	--	< 0.010	**0.014**	--	--	--	< 0.010	**21**	--	**0.49**	< 0.00020	**0.015**	**0.013**	< 0.0020	--	**350**	< 6.0	< 6.0	**350**	< 6.0	**2,500**	**38**	--	--	**680**
MW-69	URS	Downgradient	11/3/2018	FC-CCR-MW69-11318	**92**	**470**	**1,200**	**11**	--	**7.3**	**8,700**	**14,000**	--	--	--	--	--	--	--	**11**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	11/3/2018	FC-CCR-MW69-11318	--	--	--	--	--	--	--	--	--	**0.0042**	**0.012**	--	--	--	**0.0041**	--	--	**0.35**	--	**0.012**	**0.025**	**0.00024**	**3.0**	--	--	--	--	--	--	--	**1.7**	**1.3**	--
MW-69	URS	Downgradient	3/17/2019	FC-CCR-MW69-031719	--	--	--	**3.1**	--	--	--	--	< 0.0010	**0.0032**	**0.010**	< 0.0010	**0.00021**	< 0.0010	**0.0031**	**3.1**	< 0.00050	**0.27**	< 0.00020	**0.011**	**0.038**	**0.00020**	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	3/17/2019	FC-CCR-MW69-031719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.6**	--	--	--	--	--	--	--	**0.6**	**2.0**	--
MW-69	URS	Downgradient	5/7/2019	FC-CCR-MW69-5719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.8**	--	--	--	--	--	--	--	< 0.4	**1.8**	--
MW-69	URS	Downgradient	12/3/2019	FC-CCR-MW69-120219	**88**	**490**	**1,000**	**9.0**	--	**7.2 J**	**8,100**	**13000 J**	< 0.0020	**0.0070**	**0.011**	< 0.0010	< 0.00020	< 0.0040	**0.0047**	**9.0**	< 0.0010	**0.35**	< 0.00020	**0.0096**	**0.12**	**0.00053**	--	--	--	--	--	--	--	--	--	--	--
MW-69	URS	Downgradient	6/19/2020	FC-CCR-MW69-0620	**58**	**500**	**830**	**5.5**	**6.89**	**7.4 J**	**5,500**	**9,700**	< 0.002	**0.0040**	**0.014**	--	< 0.0002	< 0.002	**0.0027**	**5.5**	< 0.001	**0.55**	--	**0.0072**	**0.089**	**0.00030**	**1.9**	--	--	--	--	--	--	--	**0.6**	**1.3**	--
MW-69	URS	Downgradient	11/4/2020	FC-CCR-MW69-1120	**63**	**550**	**890**	**5.8**	**6.75**	**7.3 J**	**6,000**	**9,600**	< 0.002 U	**0.0058**	**0.0081**	< 0.001	< 0.0002 U	**0.00092 J**	**0.0028**	**5.8**	< 0.0005	**0.26**	< 0.0002	**0.0075**	**0.11**	**0.00034**	**1.3**	--	--	--	--	--	--	--	< 0.4	**1.3**	--
MW-69	URS	Downgradient	4/21/2021	FC-CCR-MW69-0421	**53**	**590**	**810**	**4.1**	**7.18**	**7.4 J**	**5,000**	**8,300 J**	< 0.0004 U	**0.0021**	**0.0090**	< 0.001	< 0.0004	< 0.004	**0.0021**	**4.1**	< 0.002	**0.19**	< 0.0002	**0.0075**	**0.14**	**0.0003 J**	**0.7**	--	--	--	--	--	--	--	**0.7**	<0.7	--
MW-69	URS	Downgradient	11/12/2021	FC-CCR-MW69-1121	**62**	**530**	**1,000**	**4.9**	**6.72**	**7.4 J**	**6,900**	**5,100**	**0.00022 J**	< 0.001	**0.0081**	<0.001	**0.000074 J**	< 0.002	**0.0023**	**4.9**	< 0.001	**0.24**	< 0.0002	**0.0061**	**0.17**	**0.00032**	**1.9**	--	--	--	--	--	--	--	**1.0**	**0.9**	--
MW-69	URS	Downgradient	05/21/2022	FC-CCR-MW69-0522	**45**	**500**	**790**	**3.9**	**6.57**	**7.57 J**	**4,800**	**8,300**	< 0.002	**0.0014**	**0.0073**	< 0.001	< 0.0002	< 0.002	**0.0018**	**3.9**	< 0.001	**0.21**	< 0.0002	**0.0056**	**0.14**	**0.00032**	**0.8**	--	--	--	--	--	--	--	<0.4	**0.8**	--
MW-69	URS	Downgradient	05/21/2022	FC-CCR-SS03-0522	**45.1**	**527**	**942**	< 25 / **3.33**	**6.57**	**7.8 J**	**5,360**	**8,270 J**	< 0.01	< 0.005	**0.00627 J**	< 0.00125	< 0.00125	< 0.01	**0.00279**	< 25 / **3.33**	< 0.0025	**0.215**	< 0.001	**0.00583**	**0.131**	< 0.0025	--								--		
MW-69	URS	Downgradient	11/14/2022	FC-CCR-MW69-1122	**40**	**550**	**790**	**4.2**	**7.15**	**7.4 J**	**4,600**	**8,000**	< 0.001	**0.0015**	**0.008**	< 0.001	< 0.0001	< 0.001	**0.0024**	**4.2**	< 0.0005	**0.18**	< 0.0002	**0.006**	**0.18**	**0.00027**	**1.3**	--	--	--	--	--	--	--	< 0.4	**1.3**	--
MW-70	URS	Downgradient	11/9/2015	FC-CCR-MW70-110915	**95**	**500**	**1,200**	**2.6**	--	**6.87**	**7,000**	**11,000**	**0.00017**	**0.0094**	**0.015**	**0.00011**	**0.00014**	**0.00060**	**0.0057**	**2.6**	**0.00015**	**0.28**	< 0.00020	**0.0096**	**0.20**	**0.00049**	--	**540**	< 5.0	--	**540**	--	**1,300**	**19**	--	--	**830**
MW-70	URS	Downgradient	11/9/2015	FC-CCR-MW70-110915	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.616**	**1.02**	--
MW-70	URS	Downgradient	4/27/2016	FC-CCR-MW-70-042716	--	--	--	**2.3**	--	--	--	--	< 0.0025	**0.0053**	**0.012**	< 0.0010	< 0.00010	**0.00062**	**0.0057**	**2.3**	< 0.00050	**0.33**	< 0.00020	**0.0062**	**0.20**	**0.00038**	**1.0**	--	--	--	--	--	--	--	< 0.4	**1.0**	--
MW-70	URS	Downgradient	6/5/2016	FC-CCR-MW70-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.9**	--	--	--	--	--	--	--	**0.5**	**2.4**	--
MW-70	URS	Downgradient	6/5/2016	FC-CCR-MW70-616	**89**	**480**	**1,200**	**2.1**	--	**6.97**	**6,300**	**12,000**	**0.00011**	**0.0048**	**0.012**	< 0.0010	< 0.00010	**0.00063**	**0.0051**	**2.1**	< 0.00050	**0.31**	< 0.00020	**0.0060**	**0.17**	**0.00028**	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	6/5/2016	FC-CCR-DUP-616	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	**0.6**	**1.3**	--
MW-70	URS	Downgradient	6/5/2016	FC-CCR-DUP-616	**89**	**480**	**1,100**	**2.2**	--	**6.94**	**6,300**	**12,000**	**0.00011**	**0.0044**	**0.013**	< 0.0010	< 0.00010	**0.00084**	**0.0051**	**2.2**	< 0.00050	**0.32**	< 0.00020	**0.0060**	**0.16**	**0.00027**	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	8/20/2016	FC-CCR-MW70-816	**91**	**490**	**1,100**	**0.66**	--	**7.0**	**5,800**	**12,000**	--	--	--	--	--	--	--	**0.66**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	8/20/2016	FC-CCR-MW70-816	--	--	--	< 0.80	--	--	--	--	**0.00026**	**0.0051**	**0.016**	< 0.0010	< 0.00020	**0.0037**	**0.0032**	< 0.80	< 0.0010	**0.35**	< 0.00020	**0.027**	**0.23**	**0.00057**	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	8/20/2016	FC-CCR-MW70-816	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--	< 0.3	**1.5**	--
MW-70	URS	Downgradient	9/12/2016	FC-CCR-MW70-916	**93**	**500**	**1,100**	**0.69**	--	**7.0**	**5,900**	**12,000**	--	--	--	--	--	--	--	**0.69**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	9/12/2016	FC-CCR-MW70-916	--	--	--	< 0.40	--	--	--	--	< 0.0025	< 0.0010	**0.0073**	< 0.0010	< 0.00050	< 0.0025	**0.0023**	< 0.40	< 0.00050	**0.29**	< 0.00020	**0.0036**	**0.13**	< 0.00050	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	9/12/2016	FC-CCR-MW70-916	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.6**	--	--	--	--	--	--	--	**0.6**	**2.0**	--
MW-70	URS	Downgradient	10/19/2016	FC-CCR-MW70-1016	**91**	**450**	**1,100**	< 0.40	--	**7.1**	**6,400**	**12,000**	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	10/19/2016	FC-CCR-MW70-1016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.6**	--	--	--	--	--	--	--	**0.6**	**1.0**	--
MW-70	URS	Downgradient	2/1/2017	FC-CCR-MW70-117	**90**	**480**	**1,100**	< 0.40	--	**7.5**	**6,400**	**11,000**	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--	**470**	< 6.0	< 6.0	**470**	< 6.0	**1,300**	**17**	--	--	**770**
MW-70	URS	Downgradient	2/1/2017	FC-CCR-MW70-117	--	--	--	< 0.40	--	--	--	--	< 0.0010	**0.0071**	**0.0089**	< 0.0010	**0.00011**	**0.0016**	**0.0031**	< 0.40	< 0.00050	**0.28**	< 0.00020	**0.0026**	**0.26**	**0.00040**	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	2/1/2017	FC-CCR-MW70-117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.3**	--	--	--	--	--	--	--	< 0.4	**3.3**	--
MW-70	URS	Downgradient	4/16/2017	FC-CCR-MW70-41717	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.6**	--	--	--	--	--	--	--	< 0.4	**2.6**	--
MW-70	URS	Downgradient	4/16/2017	FC-CCR-MW70-41617	**94**	**490**	**1,100**	**0.94**	--	**7.1**	**6,000**	**11,000**	--	--	--	--	--	--	--	**0.94**	--	--	--	--	--	--	--	**510**	< 6.0	< 6.0	**510**	< 6.0	**1,300**	**18**	--	--	**820**
MW-70	URS	Downgradient	4/16/2017	FC-CCR-MW70-41617	--	--	--	**0.85**	--	--	--	--	< 0.0040	**0.0054**	**0.0084**	< 0.0010	< 0.00040	< 0.0020	**0.0035**	**0.85**	< 0.0020	**0.31**	< 0.00020	**0.0035**	**0.18**	**0.00041**	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	4/16/2017	*DUP* FC-CCR-FD01-41617	**92**	**460**	**1,100**	**0.95**	--	**7.1**	**6,100**	**11,000**	--	--	--	--	--	--	--	**0.95**	--	--	--	--	--	--	--	**510**	< 6.0	< 6.0	**510**	< 6.0	**1,300**	**18**	--	--	**790**
MW-70	URS	Downgradient	4/16/2017	*DUP* FC-CCR-FD01-41617	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.1**	--	--	--	--	--	--	--	< 0.4	**2.1**	--
MW-70	URS	Downgradient	4/16/2017	*DUP* FC-CCR-FD01-41617	--	--	--	**0.85**	--	--	--	--	< 0.0040	**0.0045**	**0.0090**	< 0.0010	< 0.00040	< 0.0020	**0.0038**	**0.85**	< 0.0020	**0.32**	< 0.00020	**0.0037**	**0.20**	**0.00042**	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	5/1/2017	FC-CCR-MW70-5117	--	--	--	< 5.0	--	--	--	--	< 0.0010	**0.0070**	**0.0097**	< 0.0010	< 0.00010	< 0.0010	**0.0053**	< 5.0	< 0.00050	**0.32**	< 0.00020	**0.0057**	**0.25**	**0.00039**	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	5/1/2017	FC-CCR-MW70-5117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.4**	--	--	--	--	--	--	--	**0.5**	**1.9**	--
MW-70	URS	Downgradient	5/29/2017	FC-CCR-MW70-52917	--	--	--	**2.6**	--	--	--	--	< 0.010	< 0.0050	**0.014**	< 0.0010	< 0.0010	< 0.0050	**0.0071**	**2.6**	< 0.0050	**0.31**	< 0.00020	**0.0090**	**0.18**	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	5/29/2017	FC-CCR-MW70-52917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	< 0.4	**1.3**	--
MW-70	URS	Downgradient	6/21/2017	FC-CCR-MW70-62117	**92**	**500**	**1,000**	--	--	**7.1**	**6,200**	**11,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**510**	< 6.0	< 6.0	**510**	< 6.0	**1,300**	**18**	--	--	**850**
MW-70	URS	Downgradient	6/21/2017	FC-CCR-MW70-62117	--	--	--	**2.9**	--	--	--	--	< 0.0040	**0.0049**	**0.014**	< 0.0010	< 0.00040	< 0.0020	**0.0075**	**2.9**	< 0.0020	**0.32**	< 0.00020	**0.0088**	**0.18**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	6/21/2017	FC-CCR-MW70-62117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.5**	--	--	--	--	--	--	--	**0.7**	**1.8**	--
MW-70	URS	Downgradient	7/21/2017	FC-CCR-MW70-72117	**100**	**510**	**1,100**	**2.1**	--	**7.0**	**6,800**	**12,000**	--	--	--	--	--	--	--	**2.1**	--	--	--	--	--	--	--	**500**	< 6.0	< 6.0	**500**	< 6.0	**1,300**	**19**	--	--	**870**
MW-70	URS	Downgradient	7/21/2017	FC-CCR-MW70-72117	--	--	--	--	--	--	--	--	< 0.0040	**0.0042**	**0.0095**	< 0.0010	< 0.00040	< 0.0020	**0.0055**	--	< 0.0020	< 0.80	< 0.00020	**0.0055**	**0.21**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	7/21/2017	FC-CCR-MW70-72117	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	< 0.5	< 0.7	--
MW-70	URS	Downgradient	8/9/2017	FC-CCR-MW70-8917	**98**	**510**	**1,100**	--	--	**7.2**	**6,800**	**11,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**500**	< 6.0	< 6.0	**500**	< 6.0	**1,300**	**18**	--	--	**880**
MW-70	URS	Downgradient	8/9/2017	FC-CCR-MW70-8917	--	--	--	**3.0**	--	--	--	--	< 0.010	**0.0047**	**0.013**	< 0.0010	< 0.0010	< 0.0040	**0.0077**	**3.0**	< 0.0050	**0.34**	< 0.00020	**0.0093**	**0.18**	< 0.0010	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	8/9/2017	FC-CCR-MW70-8917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.6**	--	--	--	--	--	--	--	< 0.4	**1.6**	--
MW-70	URS	Downgradient	8/16/2017	FC-CCR-MW70-81617	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.8**	--	--	--	--	--	--	--	< 0.4	**1.8**	--
MW-70	URS	Downgradient	8/16/2017	FC-CCR-MW70-81617	**94**	**540**	**1,100**	**3.2**	--	**7.1**	**6,200**	**12,000**	--	--	--	--	--	--	--	**3.2**	--	--	--	--	--	--	--	**510**	< 6.0	< 6.0	**510**	< 6.0	**1,300**	**21**	--	--	**890**
MW-70	URS	Downgradient	9/9/2017	FC-CCR-MW70-9917	**99**	**520**	**1,100**	--	--	**7.0**	**6,500**	**12,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**510**	< 6.0	< 6.0	**510**	< 6.0	**1,200**	**17**	--	--	**820**
MW-70	URS	Downgradient	9/9/2017	FC-CCR-MW70-9917	--	--	--	**2.5**	--	--	--	--	< 0.0040	**0.0056**	**0.010**	< 0.0010	< 0.00040	< 0.0040	**0.0057**	**2.5**	< 0.0020	**0.31**	< 0.00020	**0.0063**	**0.17**	< 0.00040	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	9/9/2017	FC-CCR-MW70-9917	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.0**	--	--	--	--	--	--	--	**0.7**	**1.3**	--
MW-70	URS	Downgradient	10/13/2017	FC-CCR-MW70-101317	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	--	--	--	--	--	--	--	< 0.3	< 0.6	--
MW-70	URS	Downgradient	10/13/2017	FC-CCR-MW70-101317	**97**	**490**	**1,200**	**1.0**	--	**7.1**	**6,600**	**12,000**	< 0.010	**0.0062**	**0.011**	< 0.0010	< 0.0010	< 0.010	< 0.0050	**1.0**	< 0.0050	**0.31**	< 0.00020	< 0.0050	**0.21**	< 0.0010	--	**510**	< 6.0	< 6.0	**510**	< 6.0	**1,200**	**18**	--	--	**810**
MW-70	URS	Downgradient	11/30/2017	FC-CCR-MW70-113017	**92**	**560**	**1,100**	**2.7**	--	**6.9**	**6,300**	**11,000**	--	--	--	--	--	--	--	**2.7**	--	--	--	--	--	--	--	**510**	< 6.0	< 6.0	**510**	< 6.0	**1,200**	**19**	--	--	**880**
MW-70	URS	Downgradient	3/16/2018	FC-CCR-MW70-31618	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.6**	--	--	--	--	--	--	--	< 1.1	**2.6**	--
MW-70	URS	Downgradient	5/31/2018	FC-CCR-MW-70-53118	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.8**	--	--	--	--	--	--	--	**0.5**	**2.3**	--
MW-70	URS	Downgradient	5/31/2018	FC-CCR-MW-70-53118	**100**	**490**	**1,100**	**1.8**	--	**6.9**	**6,500**	**11,000**	--	< 0.010	**0.012**	--	--	--	< 0.010	**1.8**	--	**0.30**	< 0.00020	< 0.010	**0.18**	< 0.0020	--	**520**	< 6.0	< 6.0	**520**	< 6.0	**1,300**	**17**	--	--	**780**
MW-70	URS	Downgradient	11/2/2018	FC-CCR-MW70-11218	**88**	**510**	**1,100**	**2.7**	--	**7.0**	**6,400**	**11,000**	--	--	--	--	--	--	--	**2.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	11/2/2018	FC-CCR-MW70-11218	--	--	--	--	--	--	--	--	--	**0.0043**	**0.010**	--	--	--	**0.0041**	--	--	**0.32**	--	**0.0064**	**0.19**	**0.00029**	**0.7**	--	--	--	--	--	--	--	**0.7**	< 0.7	--
MW-70	URS	Downgradient	3/18/2019	FC-CCR-MW70-031819	--	--	--	**2.3**	--	--	--	--	< 0.0010	**0.0054**	**0.0099**	< 0.0010	< 0.00010	< 0.0010	**0.0040**	**2.3**	< 0.00050	**0.32**	< 0.00020	**0.0057**	**0.24**	**0.00029**	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	3/18/2019	FC-CCR-MW70-031819	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.2**	--	--	--	--	--	--	--	< 0.4	**1.2**	--
MW-70	URS	Downgradient	5/7/2019	FC-CCR-MW70-5719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.4**	--	--	--	--	--	--	--	< 0.5	**2.4**	--
MW-70	URS	Downgradient	12/3/2019	FC-CCR-MW70-120319	**95**	**510**	**1,200**	**2.1**	--	**7.0 J**	**6,400**	**11,000**	< 0.0020	**0.0076**	**0.012**	< 0.0010	< 0.00020	< 0.0040	**0.0036**	**2.1**	< 0.0010	**0.33**	< 0.00020	**0.0075**	**0.19**	**0.00028**	--	--	--	--	--	--	--	--	--	--	--
MW-70	URS	Downgradient	6/19/2020	FC-CCR-MW70-0620	**98**	**490**	**1,100**	**1.9**	**6.54**	**7.1 J**	**6,300**	**11,000**	< 0.002	**0.0070**	**0.010**	--	< 0.0002	< 0.002	**0.0043**	**1.9**	< 0.001	**0.71**	--	**0.0060**	**0.21**	**0.00023**	**1.9**	--	--	--	--	--	--	--	**0.6**	**1.3**	--
MW-70	URS	Downgradient	11/5/2020	FC-CCR-MW70-1120	**93**	**510**	**1,100**	**2.0**	**6.69**	**7.1 J**	**6,300**	**10,000**	< 0.002	**0.0078**	**0.011**	< 0.001	< 0.0002 U	**0.001 J**	**0.0035**	**2**	< 0.001	**0.36**	< 0.0002	**0.0054**	**0.21**	**0.00034**	**1.8**	--	--	--	--	--	--	--	< 0.5	**1.8**	--
MW-70	URS	Downgradient	4/21/2021	FC-CCR-MW70-0421	**97**	**540**	**1,100**	**1.8**	**6.73**	**7.0 J**	**5,600**	**11,000 J**	< 0.004	< 0.002	**0.012**	< 0.001	< 0.0004	< 0.004	**0.0034**	**1.8**	< 0.002	**0.34**	< 0.0002	**0.0057**	**0.19**	**0.00024 J**	**3.1**	--	--	--	--	--	--	--	**0.8**	**2.3**	--
MW-70	URS	Downgradient	11/12/2021	FC-CCR-MW70-1121	**95**	**510**	**1,300**	**1.9**	**6.51**	**7.1 J**	**6,900**	**9,800**	< 0.002	< 0.001	**0.011**	<0.001	**0.0001 J**	< 0.002	**0.0032**	**1.9**	< 0.001	**0.36**	< 0.0002 UJ	**0.0050**	**0.16**	**0.00020**	**1.5**	--	--	--	--	--	--	--	**0.4**	**1.1**	--
MW-70	URS	Downgradient	05/20/2022	FC-CCR-MW70-0522	**92**	**510**	**1,200**	**1.6**	**6.76**	**7.51 J**	**5,600**	**9,900**	< 0.002	< 0.001	**0.012**	< 0.001	< 0.0002	< 0.002	**0.0027**	**1.6**	< 0.001	**0.37**	< 0.0002	**0.0051**	**0.17**	**0.00020**	**2.2**	--	--	--	--	--	--	--	**0.6**	**1.6**	--
MW-70	URS	Downgradient	11/13/2022	FC-CCR-MW70-1122	**90**	**540**	**1,100**	**1.4**	**6.71**	**7.1 J**	**5,700**	**11,000**	< 0.001	**0.00089**	**0.012**	< 0.001	**0.00029**	**0.0015**	**0.0030**	**1.4**	< 0.0005	**0.32**	< 0.0002	**0.0049**	**0.20**	**0.00019**	**2.4**	--	--	--	--	--	--	--	< 0.4	**2.4**	--
MW-83	URS	Downgradient	3/18/2019	FC-CCR-MW83-031819	--	--	--	**1.2**	--	--	--	--	< 0.0010	**0.0023**	**0.034**	< 0.0010	< 0.00010	< 0.0010	< 0.00050	**1.2**	< 0.00050	< 0.20	< 0.00020	**0.053**	**0.0012**	< 0.00010	--	--	--	--	--	--	--	--	--	--	--
MW-83	URS	Downgradient	3/18/2019	FC-CCR-MW83-031819	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-83	URS	Downgradient	5/6/2019	FC-CCR-MW83-5619	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-83	URS	Downgradient	5/6/2019	*DUP* FC-CCR-FD01-5619	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-83	URS	Downgradient	12/2/2019	FC-CCR-MW83-120319	**2.5**	**480**	**130**	**1.8**	--	**7.4 J**	**3,600**	**5,400**	< 0.0020	< 0.0010	**0.018**	< 0.0010	< 0.00020	< 0.0040	**0.0023**	**1.8**	< 0.0010	< 0.20	< 0.00020	**0.0096**	**0.0021**	< 0.00020	--	--	--	--	--	--	--	--	--	--	--
MW-83	URS	Downgradient	6/19/2020	FC-CCR-MW83-0620	**2.1**	**290**	**83**	**1.0**	**6.80**	**7.4 J**	**1,500**	**2,800**	< 0.004	**0.0021**	**0.012 J**	--	< 0.0004	< 0.004	< 0.002	**1.0**	< 0.001	**0.27**	--	**0.044**	< 0.002	< 0.0002	< 0.8	--	--	--	--	--	--	--	< 0.4	< 0.8	--
MW-83	URS	Downgradient	6/19/2020	*DUP* FC-CCR-FD01-0620	**2.2**	**340**	**83**	**1.0**	--	**7.3 J**	**1,500**	**2,800**	< 0.004	**0.0020**	**0.038 J**	--	< 0.0004	< 0.004	< 0.002	**1.0**	< 0.002	**0.30**	--	**0.046**	< 0.002	< 0.0004	< 0.6	--	--	--	--	--	--	--	< 0.4	< 0.6	--
MW-83	URS	Downgradient	11/4/2020	FC-CCR-MW83-1120	**2.2**	**300**	**84**	**0.98**	**7.00**	**7.3 J**	**1,500**	**2,700**	< 0.001 U	**0.0029**	**0.017**	< 0.001 U	**0.0011**	**0.0020**	**0.068**	**0.98**	**0.0016**	**0.20**	< 0.0002	**0.035**	< 0.0025 U	**0.00026**	< 0.8	--	--	--	--	--	--	--	< 0.4	< 0.8	--
MW-83	URS	Downgradient	4/21/2021	FC-CCR-MW83-0421	**2.3**	**310**	**77**	**0.55**	**7.12**	**7.3 J**	**1,200**	**2,100 J**	< 0.004	**0.0026**	**0.038**	< 0.001	< 0.0004	< 0.004	< 0.002	**0.55**	< 0.002	**0.19**	< 0.0002	**0.060**	**0.00042 J**	< 0.0004	**0.5**	--	--	--	--	--	--	--	**0.5**	<0.7	--
MW-83	URS	Downgradient	11/12/2021	FC-CCR-MW83-1121	**2.5**	**460**	**120**	**1.8**	**6.96**	**7.4 J**	**4,500**	**4,300**	**0.000096**	< 0.001	**0.0095**	<0.001	**0.00006 J**	< 0.002	**0.0015**	**1.8**	< 0.001	**0.18**	< 0.0002	**0.0081**	**0.002**	**0.000042 J**	**0.7**	--	--	--	--	--	--	--	**0.7**	<0.6	--
MW-83	URS	Downgradient	05/21/2022	FC-CCR-MW83-0522	**2.4**	**440**	**130**	**2.0**	**6.93**	**7.71 J**	**3,500**	**5,300**	< 0.002	< 0.001	**0.009**	< 0.001	< 0.0002	< 0.002	**0.0015**	**2.0**	< 0.001	**0.18**	< 0.0002	**0.0073**	**0.0012**	< 0.0002	<0.7	--	--	--	--	--	--	--	<0.4	<0.7	--
MW-83	URS	Downgradient	05/21/2022	FC-CCR-SS05-0522	**2.46**	**503**	**112**	**2.85 J / 1.78**	**6.93**	**8.1 J**	**3,530**	**5,450 J**	< 0.01	< 0.005	**0.00917 J**	< 0.00125	< 0.00125	< 0.01	**0.00241**	**2.85 J / 1.78**	< 0.0025	**0.189 J**	< 0.001	**0.00732**	**0.00101 J**	< 0.0025	--								--	--	--
MW-83	URS	Downgradient	11/14/2022	FC-CCR-MW83-1122	**2.5**	**490**	**130**	**2.0**	**7.13**	**7.4 J**	**3,400**	**5,800**	< 0.001	**0.00069**	**0.012**	< 0.001	< 0.0001	< 0.001	**0.0017**	**2.0**	< 0.0005	**0.16**	< 0.0002	**0.0075**	**0.0022**	< 0.0001	**1.0**	--	--	--	--	--	--	--	**1.0**	< 0.6	--
MW-84	URS	Downgradient	3/17/2019	FC-CCR-MW84-031719	--	--	--	< 0.80	--	--	--	--	< 0.0010	**0.00065**	**0.020**	< 0.0010	**0.00021**	**0.0010**	**0.0071**	< 0.80	< 0.00050	**0.20**	< 0.00020	**0.0091**	**0.0036 J**	**0.00046**	--	--	--	--	--	--	--	--	--	--	--
MW-84	URS	Downgradient	3/17/2019	FC-CCR-MW84-031719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--	< 0.5	**1.5**	--
MW-84	URS	Downgradient	5/7/2019	FC-CCR-MW84-5719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	**0.7**	**1.2**	--

Groundwater Sampling Results for the URS Monitoring Wells

					Appendix III Constituents								Appendix IV Constituents															Additional Analyses									
				Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Field Measurement)	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity(as CaCO3)	Alkalinity, Phenolphthalein, as CaCO3	Magnesium	Potassium	Radium 226	Radium 228	Sodium
				Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Units:	mg/L	mg/L	mg/L	mg/L	su	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L
				URS BTV (applicable to downgradient wells)	*1.9*	*540*	*710*	*<RL*	*LPL and UPL*	*LPL and UPL*	*13,000*	*20,000*	*0.01*	*0.13*	*0.051*	*0.001*	*0.001*	*0.01*	*0.016*	*4*	*0.005*	*0.8*	*0.0002*	*0.011*	*0.45*	*0.002*	*5*	--	--	--	--	--	--	--	--	--	--
				URS GWPS (applicable to downgradient wells)	--	--	--	--	--	--	--	--	*0.01*	*0.13*	*2*	*0.004*	*0.005*	*0.1*	*0.016*	*4*	*0.015*	*0.8*	*0.002*	*0.1*	*0.45*	*0.002*	*5.4*	--	--	--	--	--	--	--	--	--	--
MW-84	URS	Downgradient	12/3/2019	FC-CCR-MW84-120319	110	470	1,400	< 0.80	--	7.0 J	8,900	14,000	< 0.0020	0.0011	0.019	< 0.0010	0.00030	< 0.0040	0.0086	< 0.80	< 0.0010	< 0.20	< 0.00020	0.0051	0.0028	0.00036	--	--	--	--	--	--	--	--	--	--	--
MW-84	URS	Downgradient	6/20/2020	FC-CCR-MW84-0620	45	480	590	0.83	6.71	7.3 J	6,000	9,600	< 0.004	< 0.002	0.037 J	--	< 0.0004	< 0.004	0.0022	0.83	< 0.002	0.61	--	0.0027	0.024	0.00067	1.0	--	--	--	--	--	--	--	< 0.4	1.0	--
MW-84	URS	Downgradient	11/4/2020	FC-CCR-MW84-1120	32	490	630	0.71	6.91	7.2 J	7,200	11,000	< 0.0011 U	0.0033	0.019	< 0.001	0.00015	0.00058 J	0.075	0.71	0.0024	0.35	< 0.0002	0.0014	0.066	0.00028	< 0.8	--	--	--	--	--	--	--	< 0.4	< 0.8	--
MW-84	URS	Downgradient	4/21/2021	FC-CCR-MW84-0421	27	470	430	0.82	7.05	7.2 J	6,900	11,000 J	< 0.0004 U	0.0010 J	0.017	< 0.001	0.00016 J	< 0.004	0.001 J	0.82	< 0.002	0.34	< 0.0002	0.0027	0.053	0.00062	<0.7	--	--	--	--	--	--	--	<0.4	<0.7	--
MW-84	URS	Downgradient	11/12/2021	FC-CCR-MW84-1121	92	450	1,300	0.12 J	6.64	7.1 J	10,000 J	13,000	0.00013 J	< 0.001	0.019 J	<0.001	0.00031	< 0.002	0.0079	0.12 J	< 0.001	0.24	< 0.0002	0.0014	0.030	0.00071 J	2.1	--	--	--	--	--	--	--	1.4	0.7	--
MW-84	URS	Downgradient	11/12/2021	FC-CCR-FD01-1121	96	500	1,200	0.12 J	6.64	7.2 J	9,800 J	13,000	< 0.002	< 0.001	0.017 J	<0.001	0.00027	< 0.002	0.0078	0.12 J	< 0.001	0.24	< 0.0002	0.0012	0.032	0.00041 J	2.3	--	--	--	--	--	--	--	1.2	1.1	--
MW-84	URS	Downgradient	05/21/2022	FC-CCR-MW84-0522	77	480	940	< 0.8	6.6	7.35 J	8,100	13,000	< 0.002	< 0.001	0.015	< 0.001	0.00022	< 0.002	0.0068	< 0.8	< 0.001	0.25	< 0.0002	0.0020	0.070	0.0010 J	0.5	--	--	--	--	--	--	--	0.5	<0.7	--
MW-84	URS	Downgradient	05/21/2022	*DUP* FC-CCR-FD01-0522	81	490	950	< 0.8	6.6	7.47 J	8,400	13,000	< 0.002	< 0.001	0.016	< 0.001	< 0.0002	< 0.002	0.0071	< 0.8	< 0.001	0.25	< 0.0002	0.0020	0.074	0.00035 J	0.9	--	--	--	--	--	--	--	0.9	<0.7	--
MW-84	URS	Downgradient	11/14/2022	FC-CCR-MW84-1122	67	490	870	< 0.8	6.84	7.1 J	8,400	15,000	< 0.001	0.0010	0.018	< 0.001	0.00019	0.0010	0.0080	< 0.8	< 0.0005	0.23	< 0.0002	0.0012	0.12	0.00046	4.5 J	--	--	--	--	--	--	--	2.5	2.0 J	--
MW-84	URS	Downgradient	11/14/2022	*DUP* FC-CCR-FD01-1122	68	500	890	< 0.8	6.84	7.2 J	8,800	15,000	< 0.001	0.00084	0.017	< 0.001	0.00019	< 0.001	0.0074	< 0.8	< 0.0005	0.22	< 0.0002	0.0013	0.12	0.00044	2.6 J	--	--	--	--	--	--	--	2.6	< 0.6 UJ	--
MW-85	URS	Downgradient	3/20/2019	FC-CCR-MW85-032019	--	--	--	< 0.80	--	--	--	--	< 0.0010	0.0043	0.016	< 0.0010	< 0.00010	0.0028 "J,UJ"	< 0.00050	< 0.80	< 0.00050	0.25	< 0.00020	0.0052	0.16	0.00023	--	--	--	--	--	--	--	--	--	--	--
MW-85	URS	Downgradient	3/20/2019	FC-CCR-MW85-032019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8	--	--	--	--	--	--	< 0.5	0.8	--
MW-85	URS	Downgradient	3/20/2019	*DUP* FC-CCR-FD01-032019	--	--	--	< 0.80	--	--	--	--	< 0.0010	0.0041	0.017	< 0.0010	< 0.00010	< 0.0010 "J,UJ"	< 0.00050	< 0.80	< 0.00050	0.25	< 0.00020	0.0045	0.16	0.00023	--	--	--	--	--	--	--	--	--	--	--
MW-85	URS	Downgradient	3/20/2019	*DUP* FC-CCR-FD01-032019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-85	URS	Downgradient	5/7/2019	FC-CCR-MW85-5719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-85	URS	Downgradient	12/3/2019	FC-CCR-MW85-120319	20	500	580	< 0.80	--	7.0 J	4,600	8,200	< 0.0020	0.0061	0.017	< 0.0010	< 0.00020	< 0.0040	< 0.0010	< 0.80	< 0.0010	0.23	< 0.00020	0.0021	0.13	0.00030	--	--	--	--	--	--	--	--	--	--	--
MW-85	URS	Downgradient	6/19/2020	FC-CCR-MW85-0620	38	510	620	< 0.8	6.61	7.1 J	4,900	8,700	< 0.004	0.0079	0.015	--	< 0.0004	0.0044	< 0.002	< 0.8	< 0.002	0.44	--	0.049	0.22	< 0.0004	0.5	--	--	--	--	--	--	--	0.5	< 0.6	--
MW-85	URS	Downgradient	11/4/2020	FC-CC-MW85-1120	35	540	670	0.35 J	6.69	7.0 J	5,000	8,400	< 0.002	0.0097	0.016	< 0.001	< 0.0002 U	0.003	0.00065 J	0.35 J	< 0.001	0.29	< 0.0002	0.049	0.22	0.0002	0.7	--	--	--	--	--	--	--	0.7	< 0.8	--
MW-85	URS	Downgradient	4/21/2021	FC-CCR-MW85-0421	30	560	560	0.22 J	6.85	7.2 J	4,800	8,300 J	< 0.004	0.0021	0.022	< 0.001	< 0.0004	0.0049	< 0.002	0.22 J	< 0.002	0.25	< 0.0002	0.0039	0.20	0.00022 J	1.9	--	--	--	--	--	--	--	0.5	1.9	--
MW-85	URS	Downgradient	11/12/2021	FC-CCR-MW85-1121	51	530	680	0.27 J	6.62	7.3 J	6,300	9,900	< 0.002	0.00094 J	0.017	<0.001	< 0.0002	0.017	0.00020 J	0.27 J	< 0.001	0.36	< 0.0002	0.0019	0.30	0.00029	1.9	--	--	--	--	--	--	--	0.5	1.4	--
MW-85	URS	Downgradient	11/16/2022	FC-CCR-MW85-1122	67	530	710	< 4	6.83	7.2 J	5,900	10,000	< 0.001	0.0016	0.021	< 0.001	0.0016	0.020	0.0042	< 4	< 0.0005	0.35	0.00029	0.0080	0.34	0.00069	1.9	--	--	--	--	--	--	--	1.0	0.9	--
MW-86	URS	Downgradient	3/18/2019	FC-CCR-MW86-031819	--	--	--	< 0.80	--	--	--	--	< 0.0010	0.0011	0.016	< 0.0010	0.00012	0.0025	0.0043	< 0.80	< 0.00050	0.30	< 0.00020	0.0028	0.0050	0.00057	--	--	--	--	--	--	--	--	--	--	--
MW-86	URS	Downgradient	3/18/2019	FC-CCR-MW86-031819	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7	--	--	--	--	--	--	< 0.4	< 0.7	--
MW-86	URS	Downgradient	5/7/2019	FC-CCR-MW86-5719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	< 0.4	1.1	--
MW-86	URS	Downgradient	5/7/2019	*DUP* FC-CCR-FD02-5719	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	< 0.4	1.1	--
MW-86	URS	Downgradient	12/3/2019	FC-CCR-MW86-120319	120	480	1,400	< 0.80	--	7.1 J	8,700	14,000	< 0.0020	0.0014	0.018	< 0.0010	< 0.00020	0.035	0.0055	< 0.80	< 0.0010	0.31	< 0.00020	0.0015	0.0015	0.00075	--	--	--	--	--	--	--	--	--	--	--
MW-86	URS	Downgradient	6/19/2020	FC-CCR-MW86-0620	110	500	1,300	< 0.8	6.71	7.1 J	8,300	14,000	< 0.004	< 0.002	0.012	--	< 0.0004	< 0.004	0.0056	< 0.8	< 0.002	< 2	--	< 0.002	0.0024	0.00072	1.8	--	--	--	--	--	--	--	0.6	1.2	--
MW-86	URS	Downgradient	6/20/2020	*DUP* FC-CCR-FD02-0620	46	460	620	0.83	--	7.1 J	6,100	9,700	< 0.004	0.0022	0.020 J	--	< 0.0004	< 0.004	0.0022	0.83	< 0.002	0.46	--	0.0025	0.023	0.00069	0.9	--	--	--	--	--	--	--	< 0.4	0.9	--
MW-86	URS	Downgradient	11/5/2020	FC-CCR-MW86-1120	120	470	1,500	0.63 J	6.87	7.2 J	9,400	15,000	< 0.002	0.0035	0.013	< 0.001	< 0.0002 U	0.0018 J	0.0057	0.63 J	< 0.001	0.33	< 0.0002	0.0013	0.0053	0.00076	0.6	--	--	--	--	--	--	--	0.6	< 0.8	--
MW-86	URS	Downgradient	4/21/2021	FC-CCR-MW86-0421	110	500	1,300	0.58 J	7.00	7.2 J	8,900	14,000 J	< 0.0004 U	0.0012 J	0.015 J	< 0.001	0.00028 J	< 0.004	0.0052	0.58 J	< 0.002	0.30	< 0.0002	0.0022	0.0046 J	0.00080	1.6 J	--	--	--	--	--	--	--	0.6	1.6 J	--
MW-86	URS	Downgradient	4/21/2021	*DUP* FC-CCR-FD02-0421	110	510	1,300	0.60 J	7.00	7.3 J	8,700	14,000 J	< 0.004	0.0017 J	0.014 J	< 0.001	0.00016 J	< 0.004	0.0049	0.6 J	< 0.002	0.31	< 0.0002	0.0018 J	0.0042 J	0.00070	3.9 J	--	--	--	--	--	--	--	0.7	3.2 J	--
MW-86	URS	Downgradient	11/12/2021	FC-CCR-MW86-1121	120	510	1,600	0.56 J	6.69	7.2 J	11,000	15,000	0.00011 J	< 0.001	0.017	<0.001	0.00020	0.0014 J	0.0065	0.56 J	0.00056 J	0.35	< 0.0002	0.0011	0.0013	0.00085	0.5	--	--	--	--	--	--	--	0.5	<0.6	--
MW-86	URS	Downgradient	11/12/2021	FC-CCR-FD02-1121	120	490	1,600	0.55 J	6.69	7.2 J	11,000	14,000	0.00009 J	< 0.001	0.017	<0.001	0.00017 J	0.0014 J	0.0063	0.55 J	< 0.001	0.36	< 0.0002	0.0011	0.0021	0.00083	1.9	--	--	--	--	--	--	--	0.5	1.4	--
MW-86	URS	Downgradient	05/20/2022	FC-CCR-MW86-0522	110	470	1,200	0.92	6.96	7.45 J	8,600	14,000	< 0.002	< 0.001	0.014	< 0.001	< 0.0002	< 0.002	0.0052	0.92	< 0.001	0.34	< 0.0002	0.0016	0.0029 J	0.00064	<0.7	--	--	--	--	--	--	--	<0.4	<0.7	--
MW-86	URS	Downgradient	05/20/2022	*DUP* FC-CCR-FD02-0522	110	460	1,200	0.94	6.96	7.31 J	8,400	14,000	< 0.002	< 0.001	0.016	< 0.001	< 0.0002	< 0.002	0.0051	0.94	< 0.001	0.33	< 0.0002	0.0016	0.0016 J	0.00062	<0.7	--	--	--	--	--	--	--	<0.4	<0.7	--
MW-86	URS	Downgradient	11/13/2022	FC-CCR-MW86-1122	110	500	1,300	< 0.8	6.86	7.3 J	8,600	15,000	< 0.001	0.0012	0.014	< 0.001	< 0.0001	< 0.001	0.0053	< 0.8	< 0.0005	0.29	< 0.0002	0.0012	0.0026 J	0.00080	0.4 J	--	--	--	--	--	--	--	0.4 J	< 0.6	--
MW-86	URS	Downgradient	11/13/2022	*DUP* FC-CCR-FD02-1122	110	490	1,300	1.0	6.86	7.2 J	9,000	15,000	< 0.001	0.0011	0.014	< 0.001	< 0.0001	< 0.001	0.0052	1.0	< 0.0005	0.30	< 0.0002	0.0012	0.0032 J	0.00082	1.9 J	--	--	--	--	--	--	--	1.9 J	< 0.6	--
CM-01	URS	CM Pre-Design	11/4/2020	FC-CCR-CM01-1120	--	--	1,700	3.7	6.94	7.3 J	12,000	19,000 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	400	< 6	< 6	400	< 6	2,700	39	--	--	700
CM-02	URS	CM Pre-Design	11/4/2020	FC-CCR-CM02-1120	--	--	1,800	6.8	7.12	7.4 J	12,000	19,000 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	280	< 6	< 6	280	< 6	2,700	42	--	--	700
CM-03	URS	CM Pre-Design	11/4/2020	FC-CCR-CM03-1120	--	--	1,600	16	7.11	7.4 J	14,000	21,000 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	490	< 6	< 6	490	< 6	3,000	55	--	--	780
CM-04	URS	CM Pre-Design	11/4/2020	FC-CCR-CM04-1120	--	--	1,700	10	7.07	7.4 J	11,000	17,000 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	300	< 6	< 6	300	< 6	2,300	43	--	--	850

Notes:

BTV exceedances are shown in grey shaded cells. GWPS exceedence are shown in red tex

Abbreviations and Data Qualifiers:

< = less than
BTV = Background Threshold Value
degrees C = degrees Celsius
GWPS = Groundwater Protection Standard
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
NJ = The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
mg/L = milligrams per liter
pCi/L = Picocuries per liter
su = standard units
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

APPENDIX

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CCR GROUNDWATER DETECTION MONITORING STATISTICAL ANALYSIS AND RESULTS FOR THE CWTP APPENDIX III CONSTITUENT DATA COLLECTED THROUGH NOVEMBER 2021

Technical Memorandum

To:	Arizona Public Service Company	**Project No:**	14-2022-2006
By:	Mari Wuollet	**Reviewed by:**	Maren Henley, PE Tim Glover
Tel:	(602) 733-6000	**CC:**	File
Date:	April 12, 2022		

Re: **CCR GROUNDWATER DETECTION MONITORING**
STATISTICAL ANALYSIS AND RESULTS FOR THE CWTP
APPENDIX III CONSTITUENT DATA COLLECTED THROUGH FEBRUARY 2022
Arizona Public Service Company Four Corners Power Plant – Fruitland, New Mexico

1.0 INTRODUCTION

This Technical Memorandum presents the results of a statistical evaluation of groundwater monitoring data collected from monitoring wells downgradient of the Combined Waste Treatment Pond (CWTP) located at the Arizona Public Service Company (APS) Four Corners Power Plant (Site) in Fruitland, New Mexico. The statistical evaluation was performed by Geosciences Consulting Strategies, LLC (Geosciences Consulting), a subcontractor to Wood Environment and Infrastructure Solutions Inc. (Wood) pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Sections 257.90 through 257.98 (CCR Rule) (Federal Register, 2020).

The CWTP is a Site CCR unit that is currently in the detection monitoring program. The CCR Rule requires evaluation on an ongoing semiannual basis of Appendix III constituent data collected from CWTP downgradient wells to determine if a statistically significant increase (SSI) over background threshold values (BTVs) has occurred. The statistical evaluation documented herein incorporates Appendix III constituent data collected from CWTP downgradient compliance wells MW-62, MW-63, MW-64, and MW-65 and CWTP background wells MW-71, MW-72, and MW-73 during the November 2021 semiannual sampling event and a February 2022 resampling event.

In response to an SSI declaration of pH at MW-63 and boron at MW-65 in October 2021 (Wood, 2021), an Alternative Source Demonstration (ASD) was completed January 2022 (Wood, 2022). Recommendations put forth in the ASD include an interwell CWTP BTV update and a preliminary MW-65 boron intrawell calculation, both of which were completed as part of this statistical evaluation. To address an initial exceedance of the boron BTV at both MW-62 and MW-65 in November 2021, in accordance with the *Statistical Data Analysis Workplan* (SDAWP) developed for the Site and the US EPA's Unified Guidance (Wood, 2020; USEPA 2009), resampling of both wells was implemented in February 2022. The February 2022 resampling event and completed BTV update confirm that the initial November 2021 MW-62 and MW-65 boron exceedances were statistically insignificant. Further details of the interwell and intrawell update, initial November 2021 exceedances, and statistical findings are presented in Section 2.0 below.

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2.0 STATISTICAL EVALUATION RESULTS

Attachment A presents the statistical evaluation performed by Geosciences Consulting. The results of the evaluation are summarized as follows:

- Table 1 of Attachment A presents updated interwell BTVs for the CWTP – which incorporates only data collected up to November 2021. Notably the updated boron BTV is 0.73 milligrams per liter (mg/L) – an increase of only 0.03 mg/L over the previous BTV of 0.70 mg/L (which triggered the initial November 2021 MW-65 boron exceedance).
- In November 2021 an initial boron detection of 2.3 mg/L exceeded the boron BTV of 2.0 mg/L at MW-62; this exceedance triggered a 1 of 3 resampling strategy for this constituent and monitoring location. The February 2022 resample resulted in a detection of 1.9 mg/L, therefore the initial exceedance is found to be statistically insignificant.
- In November 2021 an initial boron detection of 0.73 mg/L exceeded the then boron BTV of 0.70 mg/L at MW-65; this exceedance triggered a 1 of 2 resampling strategy for this constituent and monitoring location. The February 2022 resample resulted in a detection of 0.71 mg/L which does not exceed the updated boron BTV (as defined above) of 0.73 mg/L, therefore the initial exceedance is found to be statistically insignificant.
- There are currently no SSIs over BTVs for Appendix III constituents at the CWTP downgradient wells.
- A statistically significant decreasing temporal trend is evident for TDS at MW-62; chloride and TDS at MW-63; boron, field pH and TDS at MW-64; and boron and TDS at MW-65. The previously evident increasing temporal trend for calcium and decreasing temporal trend for pH at MW-63 are no longer statistically significant.
- The preliminary intrawell BTV calculation for boron at MW-65 is 0.92 mg/L.

3.0 RECOMMENDATIONS

Based on the statistical evaluation presented in Attachment A and pursuant to the CCR Rule, continuation of detection monitoring at a semiannual frequency for Appendix III constituents at the CWTP is warranted as there are no SSIs over current Appendix III BTVs. Updated interwell BTVs, as noted in Attachment A, are conservative in comparison to previous BTVs and as such, may trigger inconsistent and insignificant exceedances in the future. Due in part to the recent interwell BTV update for boron, Wood will assess use of the preliminary intrawell BTV for boron at MW-65 in future evaluations. Wood recommends continued trend testing after each monitoring event and updates to the statistical method selection and BTVs after 1-2 years of future sampling events.

4.0 REFERENCES

Federal Register, 2020. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments issued through November 12, 2020.*

United States Environmental Protection Agency (USEPA), 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

Wood, 2020. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Four Corners Power Plan, Fruitland, New Mexico. Prepared for Arizona Public Service. June 2020.

Wood, 2021. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the CWTP Appendix III Constituent Data Collected Through July 2021*. Arizona Public Service Four Corners Power Plant – Fruitland, New Mexico. Technical Memorandum dated October 13, 2021.

Wood, 2022. *Alternative Source Demonstration for Boron and pH at the CWTP*. Arizona Public Service Four Corners Power Plant – Fruitland, New Mexico. Technical Memorandum dated January 11, 2022.

ATTACHMENT A

Technical Memorandum

To: Maren Henley, PE
Mari Wuollet
Wood Environment & Infrastructure Solutions, Inc.

From: Carla Landrum, PhD
Geoscience Consulting Strategies LLC

Date: April 5, 2022

Subject: **CCR Groundwater Semiannual Detection Monitoring**
Statistical Evaluation of CWTP Data through November 2021
Arizona Public Service Company Four Corners Power Plant – Fruitland, New Mexico

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) documents the statistical evaluation of detection monitoring (i.e., Appendix III constituents) groundwater data associated with the Combined Waste Treatment Pond (CWTP) unit located at the Arizona Public Service Company (APS) Four Corners Power Plant (FCPP) in Fruitland, New Mexico. This routine statistical evaluation is completed by Geoscience Consulting Strategies LLC in accordance with the Statistical Data Analysis Work Plan (SDAWP) for the FCPP and the Coal Combustion Residuals (CCR) Rule (Federal Register, 2020; Wood Environment & Infrastructure Solutions, Inc. [Wood], 2020a).

The CWTP historically underwent three Alternative Source Demonstration (ASD) in July 2019, July 2020, and January 2022 in response to multiple SSI declaration over respective Appendix III Background Threshold Values (BTVs) for fluoride (at monitoring wells MW-62, MW-63, MW-64 and MW-65), field pH (at monitoring wells MW-63, MW-64, and MW-65), boron (at monitoring wells MW-62, MW-63, and MW-65) and calcium (at monitoring wells MW-62 and MW-63) (Wood, 2019; Wood, 2020b; Wood, 2022). The CWTP remains in detection monitoring on the following basis:

The 2019, 2020, and 2022 ASDs concluded that the SSI declarations were not due to a release from the CWTP but were attributed to the following:

- The varying presence of fill materials at the compliance and background monitoring locations for fluoride;
- Surface-groundwater interactions for pH;
- Spatial and temporal heterogeneity in the compliance and background well sample concentrations of boron and calcium; and
- Anthropogenic activities (lowering of the water level in the CWTP) impacting subsurface conditions during operational maintenance between October 2020 and April 2021 for boron and pH.

Establishing representative and adequate BTVs can help the CWTP detection monitoring program avoid false positive SSIs. This requires updating BTVs as additional time-independent and representative groundwater sample data cumulate over time.

This statistical evaluation incorporates the CWTP November 2021 semiannual detection monitoring results and any corresponding resample events, as necessary. Following is a summary of: 1) the statistical evaluation of the November 2021 CWTP detection monitoring groundwater data and 2) updates to CWTP BTVs. The following sections present data inputs, statistical methods, results and recommendations for the subject analysis.

2.0 DATA INPUTS

The CWTP groundwater monitoring well network consists of three background monitoring wells (MW-71, MW-72, and MW-73) and four compliance (i.e., downgradient), monitoring wells (MW-62, MW-63, MW-64 and MW-65).

The CWTP detection monitoring program performs statistical evaluations semiannually. The period of evaluation for this subject analysis ranges from November 2015 through November 2021 and includes:

1) the minimum of eight initial, or baseline, sampling rounds required by the CCR Rule and nine subsequent sampling rounds of detection monitoring that occur on a semi-annual frequency; and

2) a February 2022 resampling event to confirm initial exceedance declarations in November 2021 for boron at MW-62 and MW-65 (see Table 1).

Due principally to the CCR Rule requirement that a minimum of eight initial rounds of data be collected from the site prior to October 17, 2017, the frequency of sample collection prior to this date is short and variable (e.g., biweekly to quarterly sampling). This short and variable sampling frequency presents a basis for BTV updates due, in part, to its underrepresentation of the intrinsic temporal variability in groundwater constituent concentrations beneath the CWTP.

This statistical data evaluation includes 23 to 27 sample results for boron, calcium, chloride, fluoride, sulfate, total dissolved solids (TDS), and pH at each compliance monitoring well. The first, second, third, fourth, fifth, sixth, seventh, eighth and ninth rounds of detection monitoring at the CWTP were conducted in November 2017, June 2018, November 2018, May 2019, December 2019, June 2020, November 2020, April 2021 and November 2021 respectively; all Appendix III constituents were evaluated in collected samples during these monitoring events except for chloride and sulfate in May 2019 due to the inadvertent exclusion of these analytes on the Chain of Custody in the field.

Appendix A contains the contents of the ProUCL data upload tables for the subject analysis. Data inputs for this statistical analysis were prepared, and provided by, Wood. The Appendix III analytes are listed by name or chemical symbol as column headers in the ProUCL data upload table. By ProUCL convention (US EPA, 2015), each analyte has a corresponding data column (indicated with a “D_” prefix) that indicates if the analyte was detected or not at a concentration that exceeds the analytical reporting limit, where detectable concentrations are symbolized by a “1” and non-detectable concentrations are symbolized by a “0.” The detection frequency is 100% for all compliance well sample data listed in Appendix A.

3.0 METHODS

The subject statistical analysis consists of comparing the November 2021 sample concentrations to corresponding not-to-exceed BTVs in Table 1. If an exceedance exists, the statistical significance of this exceedance is assessed through the prescribed resampling strategy. For this statistical analysis, the February 2022 resampling event fulfills the 1 of 3 resampling strategy for boron at MW-62 and the 1 of 2 resampling strategy for boron at MW-65.

BTV updates are part of this statistical evaluation; these updates are made in accordance with the US EPA Unified Guidance (US EPA, 2009) and the CWTP SDAWP (Wood, 2020a).

4.0 RESULTS

Table 2 summarizes: 1) Appendix III constituent concentrations relative to their respective BTV for each compliance well and 2) which constituents exhibit statistically significant ($p<0.05$) temporal trends.

Appendix B includes the EDA results.

This statistical analysis results in the following:

Monitoring Well MW-62. As shown in Table 2, the November 2021 sampling event demonstrates an initial exceedance for boron at this monitoring location. The initial exceedance triggered a resampling strategy to determine if this initial exceedance was statistically significant ($p<0.05$). The February 2022 boron resampling event confirms the November 2021 is statistically insignificant ($p<0.05$). The remaining Appendix III sample concentrations for calcium, chloride, fluoride, field pH, sulfate and TDS are below or within their respective BTVs for the November 2021 sampling event.

There is a persistent and statistically significant ($p<0.05$) decreasing trend for TDS at this monitoring location (Table 2).

Monitoring Well MW-63. The Appendix III sample concentrations for boron, calcium, chloride, fluoride, sulfate, field pH and TDS fall below or within their respective BTVs for the November 2021 sampling event.

There are statistically significant ($p<0.05$) decreasing trends for chloride and TDS at this monitoring location. The decreasing trend for chloride remains persistent. The historically persistent increasing trend for calcium is no longer statistically significant ($p<0.05$). Field pH loses its historically significant ($p<0.05$) decreasing trend for this sampling event.

Monitoring Well MW-64. The Appendix III sample concentrations for boron, calcium, chloride, fluoride, sulfate, field pH and TDS fall below or within their respective BTVs for the November 2021 sampling event.

The statistically significant ($p<0.05$) decreasing trends for boron, field pH and TDS remain constant at this monitoring location.

Monitoring Well MW-65. The semiannual November 2021 sampling event, and the corresponding February 2022 resampling event, at this monitoring location show consecutive boron exceedances with reference to the previous BTV equal to 0.70 milligrams per liter (mg/L). The updated boron BTV is equal to 0.73 mg/L, a mere 0.03 mg/L increase, that mitigates the previous November 2021 and February 2022 exceedance declarations for boron at this well. The remaining Appendix III sample concentrations for calcium, chloride, fluoride, sulfate, field pH and TDS fall below or within their respective BTVs for the November 2021 sampling event.

There are statistically significant ($p<0.05$) decreasing trends for TDS and boron at this sampling location; the previous statistically significant trends for calcium, chloride and field pH become insignificant in April 2021. Trend behaviors should be considered when investigating the SSI declaration for boron.

BTV Updates: Table 1 includes interwell and intrawell Prediction Limit BTVs updates using sample data collected between 2015 and 2021. The calculated Prediction Limits achieve a 95% confidence level and represent 'good' statistical power, per defined by the US EPA Unified Guidance (US EPA, 2009).

Outlier detection was a key precursor step to prevent the incorporation of sampling anomalies, or sample data reflecting a potential release from the CWTP, that could bias the intrawell BTVs. Outliers for fluoride (MW-62 = 3.3 mg/L and MW-63 = 0.28 mg/L) and field pH (MW-65 = 8.27 SU) were removed prior to updating intrawell BTVs shown in Table 1. Outlier detection considers goodness of fit statistics and box and whisker plot interpretations.

In general, intrawell BTV updates are more conservative in comparison to their precursors. Interwell BTV updates remain constant except for lower thresholds for calcium and chloride; a very small increase and decrease in respective pH upper and lower limits; and an infinitesimally higher threshold for boron.

Per the January 2022 ASD, an intrawell BTV was calculated for boron at MW-65 but was not included as part of this statistical analysis. The parametric MW-65 intrawell boron BTV is equal to 0.92 mg/L.

Updates in Table 1 also reflect changes regarding the resampling strategy for some BTVs. The resampling strategy updates are made in consideration of: 1) sample size, 2) the sitewide false positive error rate and 3) the statistical power of the test.

5.0 CONCLUSIONS

This statistical analysis results in the following conclusions for the CWTP detection monitoring statistical analysis:

- The CWTP has a history of exceedance declarations, where constituent concentrations either hover just outside their respective BTVs, therefore, making them inconsistent and insignificant, or have been investigated thoroughly and determined that the CWTP is not the source to the BTV exceedance (Wood, 2019, Wood, 2020b, Wood, 2022). BTV updates during this statistical evaluation conclude the impending SSI declaration(s) for boron at MW-65 are not warranted at this time.

- In response to recommendations put forth in the January 2022 ASD, an intrawell BTV for boron at MW-65 was included as part of this statistical evaluation. The application of this BTV for future statistical evaluations is dependent upon evidence of spatial heterogeneity at MW-65 for boron.

- The more conservative interwell BTV updates in Table 1 indicate some background constituents are showing less variance in their concentrations, and/or lower average concentrations, over time. The more conservative BTVs, albeit minimal, will be prone to prolonging the CWTP's historic pattern of inconsistent and insignificant exceedance declarations.

6.0 REFERENCES

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Wood, 2019. *Alternative Source Demonstration for Boron, Calcium, Fluoride and pH at the CWTP*. Arizona Public Service Four Corners Power Plant – Fruitland, New Mexico. Technical Memorandum dated July 15, 2019.

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Wood, 2022. *Alternative Source Demonstration for Boron and pH at the CWTP*. Arizona Public Service Four Corners Power Plant – Fruitland, New Mexico. Technical Memorandum dated January 11, 2022.

ATTACHMENTS

Table 1 – Interwell and Intrawell BTVs for the Four Corners CWTP
Table 2 – CWTP Downgradient Sample Data Summary

Appendix A – ProUCL Data Upload Table
Appendix B – ProUCL EDA Output Files

TABLES

Table 1
Interwell and Intrawell BTVs for the Four Corners CWTP
Appendix III Statistical Analysis

Interwell	Dates Corresponding to Data Used to Derive UPL	Constituent	Interwell UPL (BTV Calculation Method)	Units	Resampling Strategy[1]
MW-71 and MW-72	3/5/2016-11/12/2021	Boron	0.73 (NP-UPL)[2]	mg/L	1 of 2
MW-73	2/2/2017-11/13/2021	Boron	2.0 (NP-UPL)[3]	mg/L	1 of 2
MW-71 and MW-72	3/5/2016-11/12/2021	Calcium	486 (P-UPL)[2]	mg/L	1 of 2
MW-73	2/2/2017-11/13/2021	Calcium	536 (P-UPL)[3]	mg/L	1 of 2
MW-71, MW-72, and MW-73	3/5/2016-11/13/2021	Chloride	631 (P-UPL)	mg/L	1 of 2
MW-71, MW-72, and MW-73	3/5/2016-11/13/2021	pH (upper limit)	6.90 (P-UPL)[3]	SU	1 of 2
MW-71, MW-72, and MW-73	3/5/2016-11/13/2021	pH (lower limit)	6.5 (P-LPL)[3]	SU	1 of 2
MW-71, MW-72, and MW-73	3/5/2016-11/13/2021	Sulfate	13,000 (NP-UPL)	mg/L	1 of 3
MW-71, MW-72, and MW-73	3/5/2016-11/13/2021	TDS	20,000 (NP-UPL)	mg/L	1 of 3

Intrawell	Dates Corresponding to Data Used to Derive UPL	Constituent	Intrawell UPL (BTV Calculation Method[1])	Units	Resampling Strategy[1]
MW-62	11/9/2015-11/15/2021	Fluoride	1.8 (NP-UPL)	mg/L	1 of 3
MW-63	11/4/2015-11/15/2021	Fluoride	2.3 (P-UPL)	mg/L	1 of 2
MW-64	11/5/2015-11/15/2021	Fluoride	1.6 (NP-UPL)	mg/L	1 of 3
MW-64	11/5/2015-11/15/2021	pH	7.66 (P-UPL)	SU	1 of 2
MW-64	11/5/2015-11/15/2021	pH	7.23 (P-LPL)	SU	1 of 2
MW-65	11/5/2015-11/15/2021	Fluoride	2.1 (NP-UPL)	mg/L	1 of 3
MW-65	11/5/2015-11/15/2021	pH	7.44 (P-UPL)	SU	1 of 2
MW-65	11/5/2015-11/15/2021	pH	7.00 (P-LPL)	SU	1 of 2

Notes:

BTV = background threshold value
CWTP = Combined Waste Treatment Pond
LPL = Lower Prediction Limit
mg/L = milligrams per liter
NP = Non Parametric
P = Parametric
SU = standard units
UPL = Upper Prediction Limit

[1] Resampling strategies are chosen based on acceptance of the sitewide false positive error rate and the effective power of the test.

[2] Only applicable to MW-64 and MW-65

[3] Only applicable to MW-62 and MW-63

Table 2
Four Corners CWTP Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampleDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
MW-62	FC-CCR-MW62-110915	11/9/2015	2.1	520	150	1.6	6.63	3600	6700
MW-62	FC-CCR-MW-62-042716	4/27/2016	2.0	530	150	1.6	6.77	3200	6100
MW-62	FC-CCR-MW62-616	6/5/2016	2.0	510	140	1.5	6.50	3300	5900
MW-62	FC-CCR-MW62-816	8/20/2016	2.3	530	120	1.5	7.40	3300	5800
MW-62	FC-CCR-MW62-916	9/12/2016	2.5	570	130	1.5	6.73	3300	2400
MW-62	FC-CCR-MW62-1016	10/19/2016	2.2	480	120	1.2	6.57	3300	6000
MW-62	FC-CCR-MW62-117	2/1/2017	2.1	510	110		6.68	3400	5600
MW-62	FC-CCR-MW62-41617	4/16/2017	1.9	500	120	1.2	6.64	3300	5900
MW-62	FC-CCR-MW62-5117	5/1/2017	1.9	520	110	3.3	6.64	3800	5800
MW-62	FC-CCR-MW62-52917	5/29/2017	1.9	570	120	1.2	6.50	3500	5500
MW-62	FC-CCR-MW62-62117	6/21/2017	1.9	520	120	1.4	6.54	3600	5700
MW-62	FC-CCR-MW62-72117	07/21/2017	2.1	540	99	1.5	6.69	3300	5400
MW-62	FC-CCR-MW62-8917	08/09/2017	2.2	540	110	1.4	6.41	3400	5400
MW-62	FC-CCR-MW62-81617	08/16/2017	2.1	590	110	1.6	6.36	3200	5400
MW-62	FC-CCR-MW62-9917	09/09/2017	2.3	570	120	1.5	6.41	3300	5500
MW-62	FC-CCR-MW62-101317	10/13/2017	2.2	520	130	1.5	6.46	3300	5600
MW-62	FC-CCR-MW62-113017	11/30/2017	2.3	570	130	1.4	6.43	3400	5900
MW-62	FC-CCR-MW62-4618	04/06/2018	2.1	520	--	--	6.70	--	--
MW-62	FC-CCR-MW-62-6318	06/03/2018	1.8	490	120	1.6	6.59	3500	5900
MW-62	FC-CCR-MW62-11218	11/02/2018	2.4	550	110	1.5	6.46	3300	5600
MW-62	FC-CCR-MW62-5719-01	05/07/2019	1.8	540	--	1.4	6.65	--	5800
MW-62	FC-CCR-MW62-120319	12/03/2019	2.1	530	--	1.5	6.37	--	5000
MW-62	FC-CCR-MW62-0620	06/19/2020	1.9	490	82	1.8	7	2800	4700
MW-62	FC-CCR-MW62-011421	11/05/2020	2.1	510	130	1.8	6.57	3500	5300
MW-62	FC-CCR-MW62-011421	01/14/2021	--	--	--	1.2	--	--	--
MW-62	FC-CCR-MW62-0421	04/22/2021	1.9	530	130	1.5	6.91	3400	5700
MW-62	FC-CCR-MW62-1121	11/15/2021	**2.3**	530	180	1.4	6.51	4000	6700
MW-62	FC-CCR-MW62-0222	2/9/2022	1.9	--	--	--	6.71	--	--
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		Updated BTV or Intrawell UPL [1,2] :	***2.0***	***536***	***631***	***1.8***	***6.90/6.50***	***13,000***	***20,000***
		Temporal Trend [3] :	*None*	*None*	*None*	*None*	*None*	*None*	*Decreasing*

Table 2
Four Corners CWTP Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampleDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
MW-63	FC-CCR-MW63-110415	11/4/2015	1.6	420	77	2.4	6.86	2800	4100
MW-63	FC-CCR-MW-63-042716	4/27/2016	1.3	500	100	2.0	6.88	2300	4300
MW-63	FC-CCR-MW63-616	6/5/2016	1.4	500	110	1.9	6.70	2500	4400
MW-63	FC-CCR-MW63-816	8/20/2016	1.9	530	98	1.9	6.92	2800	4700
MW-63	FC-CCR-MW63-916	9/12/2016	2.0	550	110	2.1	7.03	2800	4700
MW-63	FC-CCR-MW63-1016	10/19/2016	1.7	470	100	1.8	6.82	2700	4500
MW-63	FC-CCR-MW63-117	1/31/2017	1.4	510	95	2.0	6.67	2600	4200
MW-63	FC-CCR-MW63-41717	4/17/2017	1.4	520	98	1.6	6.78	2600	4400
MW-63	FC-CCR-MW63-5217	5/2/2017	1.4	510	92	2.5	6.79	4300	4300
MW-63	FC-CCR-MW63-52817	5/28/2017	1.5	550	98	1.6	6.80	2700	4300
MW-63	FC-CCR-MW63-62117	6/21/2017	1.6	520	100	1.9	6.78	2900	4400
MW-63	FC-CCR-MW63-72117	7/21/2017	1.8	530	98	2.0	6.87	2900	4600
MW-63	FC-CCR-MW63-8917	8/9/2017	1.9	530	97	1.9	6.56	2900	4500
MW-63	FC-CCR-MW63-81617	8/16/2017	1.8	580	100	2.1	6.53	2700	4500
MW-63	FC-CCR-MW63-9917	9/9/2017	2.0	540	97	2.0	6.83	2700	4300
MW-63	FC-CCR-MW63-101317	10/13/2017	1.8	500	90	2.0	6.69	2700	4300
MW-63	FC-CCR-MW63-113017	11/30/2017	1.7	560	91	1.8	6.72	2700	4500
MW-63	FC-CCR-MW63-4618	4/6/2018	1.3	530	--	--	6.75	--	--
MW-63	FC-CCR-MW-63-6318	6/3/2018	1.4	510	90	1.7	6.76	2600	4500
MW-63	FC-CCR-MW63-112818	11/2/2018	1.9	550	88	1.9	6.66	2800	4300
MW-63	FC-CCR-MW63-5719-02	5/7/2019	1.3	540	--	1.6	6.63	--	4400
MW-63	FC-CCR-MW63-120319	12/3/2019	1.6	550	--	1.8	6.58	--	4300
MW-63	FC-CCR-MW63-0620	06/19/2020	1.5	540	77	2.1	6.53	2400	4200
MW-63	FC-CCR-MW63-1120	11/05/2020	1.7	550	85	2.2	6.72	2800	4200
MW-63	FC-CCR-MW63-0421	04/22/2021	0.93	400	88	2	**7.07**	1900	3200
MW-63	FC-CCR-MW63-0721	07/08/2021	--	--	--	--	**7.21**	--	--
MW-63	FC-CCR-MW63-1121	11/15/2021	1.3	440	81	0.28	6.89	2100	3600
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		Updated BTV or Intrawell UPL [1,2] :	***2.0***	***536***	***631***	***2.3***	***6.90/6.50***	***13,000***	***20,000***
		Temporal Trend [3] :	*None*	*None*	*Decreasing*	*None*	*None*	*None*	*Decreasing*

Table 2
Four Corners CWTP Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampleDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
MW-64	FC-CCR-MW64-110515	11/5/2015	0.6	87	49	1.5	7.64	320	780
MW-64	FC-CCR-MW-64-042716	4/27/2016	0.62	90	53	1.4	7.50	340	810
MW-64	FC-CCR-MW64-616	6/5/2016	0.58	86	52	1.4	7.29	350	800
MW-64	FC-CCR-MW64-816	8/20/2016	0.65	89	46	1.3	7.68	330	790
MW-64	FC-CCR-MW64-916	9/12/2016	0.67	90	52	1.5	7.54	320	790
MW-64	FC-CCR-MW64-1016	10/19/2016	0.64	83	53	1.5	7.52	330	790
MW-64	FC-CCR-MW64-117	1/31/2017	0.61	85	48	1.4	7.38	340	800
MW-64	FC-CCR-MW64-41717	4/17/2017	0.58	85	51	1.4	7.53	870	800
MW-64	FC-CCR-MW64-5217	5/2/2017	0.55	86	44	1.3	7.47	340	780
MW-64	FC-CCR-MW64-52817	5/28/2017	0.55	93	51	1.5	7.45	380	780
MW-64	FC-CCR-MW64-62117	6/21/2017	0.55	86	51	1.4	7.50	390	770
MW-64	FC-CCR-MW64-72117	7/21/2017	0.59	88	52	1.5	7.61	370	790
MW-64	FC-CCR-MW64-8917	8/9/2017	0.61	89	52	1.5	7.31	380	890
MW-64	FC-CCR-MW64-81617	8/16/2017	0.58	89	53	1.5	7.29	360	790
MW-64	FC-CCR-MW64-9917	9/9/2017	0.67	90	53	1.5	7.36	350	810
MW-64	FC-CCR-MW64-101317	10/13/2017	0.62	82	52	1.4	7.42	360	790
MW-64	FC-CCR-MW64-113017	11/30/2017	0.64	90	52	1.4	7.37	350	780
MW-64	FC-CCR-MW-64-6318	6/3/2018	0.48	85	50	1.4	7.54	390	800
MW-64	FC-CCR-MW64-11218	11/2/2018	0.64	88	50	1.4	7.43	350	760
MW-64	FC-CCR-MW64-5719-03	5/7/2019	0.49	89	--	1.4	7.41	--	790
MW-64	FC-CCR-MW64-120319	12/3/2019	0.56	82	--	1.5	7.29	--	720
MW-64	FC-CCR-MW64-0620	06/19/2020	0.47	77	49	1.3	7.22	300	790
MW-64	FC-CCR-MW64-1120	11/05/2020	0.51	73	53	1.6	7.49	270	720
MW-64	FC-CCR-MW64-0421	04/22/2021	0.5	89	52	1.4	7.60	300	660
MW-64	FC-CCR-MW64-1121	11/15/2021	0.58	72	51	1.4	7.29	270	680
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		BTV or Intrawell UPL [1,2] :	***0.73***	***486***	***631***	***1.6***	***7.66/7.23***	***13,000***	***20,000***
		Temporal Trend [3] :	*Decreasing*	*None*	*None*	*None*	*Decreasing*	*None*	*Decreasing*

Table 2
Four Corners CWTP Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampleDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
MW-65	FC-CCR-MW65-110515	11/5/2015	0.86	100	52	2.0	7.50	440	1000
MW-65	FC-CCR-MW-65-042716	4/27/2016	0.76	110	55	1.8	7.29	460	1100
MW-65	FC-CCR-MW65-616	6/5/2016	0.75	100	54	2.0	7.08	460	1100
MW-65	FC-CCR-MW65-816	8/20/2016	0.79	100	52	1.7	8.27	450	1000
MW-65	FC-CCR-MW65-916	9/12/2016	0.83	110	54	2.0	7.52	480	1100
MW-65	FC-CCR-MW65-1016	10/19/2016	0.77	95	54	2.0	7.36	450	1000
MW-65	FC-CCR-MW65-117	2/1/2017	0.76	96	51	1.8	7.35	410	970
MW-65	FC-CCR-MW65-41617	4/16/2017	0.83	120	60	1.8	7.21	490	1300
MW-65	FC-CCR-MW65-5117	5/1/2017	0.79	110	58	1.6	7.24	500	1100
MW-65	FC-CCR-MW65-52917	5/29/2017	0.98	160	77	1.8	7.10	790	1500
MW-65	FC-CCR-MW65-62117	6/21/2017	0.92	140	68	1.9	7.06	710	1400
MW-65	FC-CCR-MW65-72117	7/21/2017	0.76	110	53	2.0	7.31	470	1000
MW-65	FC-CCR-MW65-8917	8/9/2017	0.76	110	53	2.0	7.15	500	1000
MW-65	FC-CCR-MW65-81617	8/16/2017	0.75	110	53	2.0	6.96	500	1000
MW-65	FC-CCR-MW65-9917	9/9/2017	0.80	110	53	2.0	7.04	450	1000
MW-65	FC-CCR-MW65-101317	10/13/2017	0.75	92	52	1.9	7.13	400	960
MW-65	FC-CCR-MW65-113017	11/30/2017	0.79	100	53	2.0	7.21	410	990
MW-65	FC-CCR-MW-65-6318	6/3/2018	0.62	98	52	1.9	7.22	480	1000
MW-65	FC-CCR-MW65-11218	11/2/2018	0.77	100	51	1.9	7.18	420	940
MW-65	FC-CCR-MW65-5719-05	5/7/2019	0.60	100	--	1.7	7.13	--	970
MW-65	FC-CCR-MW65-120319	12/3/2019	0.65	89	--	1.9	7.10	--	850
MW-65	FC-CCR-MW65-0620	06/19/2020	0.57	88	48	1.7	7.18	380	940
MW-65	FC-CCR-MW65-1120	11/05/2020	0.61	82	52	2.1	7.36	350	780
MW-65	FC-CCR-MW65-0421	04/22/2021	0.78	170	71	1.5	7.19	740	540
MW-65	FC-CCR-MW65-0721	07/08/2021	**0.87**	--	--	--	7.40	--	--
MW-65	FC-CCR-MW65-1121	11/15/2021	0.73	92	55	1.7	7.14	390	910
MW-65	FC-CCR-MW65-0222	2/9/2022	0.71	--	--	--	7.17	--	--
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		BTV or Intrawell UPL [1,2] :	***0.73***	***486***	***631***	***2.1***	***7.44/7.00***	***13,000***	***20,000***
		Temporal Trend [3] :	*Decreasing*	*Decreasing*	*None*	*None*	*None*	*None*	*Decreasing*

Table 2
Four Corners CWTP Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampleDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS

Notes:

BTV = background threshold value
mg/L = milligrams per liter
TDS = total dissolved solids
UPL = upper prediction limit
SU = standard units

0.75	Value from baseline monitoring period (November 2015 thru October 2017)
	Reported value in current sampling round exceeds the BTV or UPL
	Statistically significant increasing trend present
	Statistically significant decreasing trend present
None	Insufficient evidence to identify a trend
	Updated BTV (See Table 1)

[1] See Table 1 for relevant BTV and Intrawell UPL information
[2] For pH, values presented refer to the Upper Prediction Limit/Lower Prediction Limit, respectively
[3] Temporal trends evaluated with Mann-Kendall trend tests ($p<0.05$); tied values (sequential sample concentrations

APPENDIX A

PROUCL DATA UPLOAD TABLE

Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	SampDate	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	Sulfate	D_Sulfate	DissolvedSolids	D_DissolvedSolids	Field_pH	D_Field_pH
MW-62	FC-CCR-MW62-110915	11/09/2015	11/9/2015	2.1	1	520	1	150	1	1.6	1	3600	1	6700	1	6.63	1
MW-62	FC-CCR-MW-62-042716	04/27/2016	4/27/2016	2	1	530	1	150	1	1.6	1	3200	1	6100	1	6.77	1
MW-62	FC-CCR-MW62-616	06/05/2016	6/5/2016	2	1	510	1	140	1	1.5	1	3300	1	5900	1	6.50	1
MW-62	FC-CCR-MW62-816	08/20/2016	8/20/2016	2.3	1	530	1	120	1	1.5	1	3300	1	5800	1	7.40	1
MW-62	FC-CCR-MW62-916	09/12/2016	9/12/2016	2.5	1	570	1	130	1	1.5	1	3300	1	2400	1	6.73	1
MW-62	FC-CCR-MW62-1016	10/19/2016	10/19/2016	2.2	1	480	1	120	1	1.2	1	3300	1	6000	1	6.57	1
MW-62	FC-CCR-MW62-117	02/01/2017	2/1/2017	2.1	1	510	1	110	1	1.4	1	3400	1	5600	1	6.68	1
MW-62	FC-CCR-MW62-41617	04/16/2017	4/16/2017	1.9	1	500	1	120	1	1.2	1	3300	1	5900	1	6.64	1
MW-62	FC-CCR-MW62-5117	05/01/2017	5/1/2017	1.9	1	520	1	110	1	3.3	1	3800	1	5800	1	6.64	1
MW-62	FC-CCR-MW62-52917	05/29/2017	5/29/2017	1.9	1	570	1	120	1	1.2	1	3500	1	5500	1	6.50	1
MW-62	FC-CCR-MW62-62117	06/21/2017	6/21/2017	1.9	1	520	1	120	1	1.4	1	3600	1	5700	1	6.54	1
MW-62	FC-CCR-MW62-72117	07/21/2017	7/21/2017	2.1	1	540	1	99	1	1.5	1	3300	1	5400	1	6.69	1
MW-62	FC-CCR-MW62-8917	08/09/2017	8/9/2017	2.2	1	540	1	110	1	1.4	1	3400	1	5400	1	6.41	1
MW-62	FC-CCR-MW62-81617	08/16/2017	8/16/2017	2.1	1	590	1	110	1	1.6	1	3200	1	5400	1	6.36	1
MW-62	FC-CCR-MW62-9917	09/09/2017	9/9/2017	2.3	1	570	1	120	1	1.5	1	3300	1	5500	1	6.41	1
MW-62	FC-CCR-MW62-101317	10/13/2017	10/13/2017	2.2	1	520	1	130	1	1.5	1	3300	1	5600	1	6.46	1
MW-62	FC-CCR-MW62-113017	11/30/2017	11/30/2017	2.3	1	570	1	130	1	1.4	1	3400	1	5900	1	6.43	1
MW-62	FC-CCR-MW62-4618	04/06/2018	4/6/2018	2.1	1	520	1	--	--	--	--	--	--	--	--	6.70	1
MW-62	FC-CCR-MW-62-6318	06/03/2018	6/3/2018	1.8	1	490	1	120	1	1.6	1	3500	1	5900	1	6.59	1
MW-62	FC-CCR-MW62-11218	11/02/2018	11/2/2018	2.4	1	550	1	110	1	1.5	1	3300	1	5600	1	6.46	1
MW-62	FC-CCR-MW62-5719-01	05/07/2019	5/7/2019	1.8	1	540	1	--	--	1.4	1	--	--	5800	1	6.65	1
MW-62	FC-CCR-MW62-120319	12/03/2019	12/3/2019	2.1	1	530	1	NA	0	1.5	1	NA	0	5000	1	6.37	1
MW-62	FC-CCR-MW62-0620	06/19/2020	6/19/2020	1.9	1	490	1	82	1	1.8	1	2800	1	4700	1	6.90	1
MW-62	FC-CCR-MW62-1120	11/05/2020	11/5/2020	2.1	1	510	1	130	1	1.8	1	3500	1	5300	1	6.57	1
MW-62	FC-CCR-MW62-011421	01/14/2021	1/14/2021	--	--	--	--	--	--	1.2	1	--	--	--	--	--	--
MW-62	FC-CCR-MW62-0421	04/22/2021	4/22/2021	1.9	1	530	1	130	1	1.5	1	3400	1	5700	1	6.91	1
MW-62	FC-CCR-MW62-1121	11/15/2021	11/15/2021	2.3	1	530	1	180	1	1.4	1	4000	1	6700	1	6.51	1
MW-62	FC-CCR-MW62-0222	2/9/2022	2/9/2022	1.9	1	--	--	--	--	--	--	--	--	--	--	6.71	1
MW-63	FC-CCR-MW63-110415	11/04/2015	11/4/2015	1.6	1	420	1	77	1	2.4	1	2800	1	4100	1	6.86	1
MW-63	FC-CCR-MW-63-042716	04/27/2016	4/27/2016	1.3	1	500	1	100	1	2	1	2300	1	4300	1	6.88	1
MW-63	FC-CCR-MW63-616	06/05/2016	6/5/2016	1.4	1	500	1	110	1	1.9	1	2500	1	4400	1	6.70	1
MW-63	FC-CCR-MW63-816	08/20/2016	8/20/2016	1.9	1	530	1	98	1	1.9	1	2800	1	4700	1	6.92	1
MW-63	FC-CCR-MW63-916	09/12/2016	9/12/2016	2	1	550	1	110	1	2.1	1	2800	1	4700	1	7.03	1
MW-63	FC-CCR-MW63-1016	10/19/2016	10/19/2016	1.7	1	470	1	100	1	1.8	1	2700	1	4500	1	6.82	1
MW-63	FC-CCR-MW63-117	01/31/2017	1/31/2017	1.4	1	510	1	95	1	2	1	2600	1	4200	1	6.67	1
MW-63	FC-CCR-MW63-41717	04/17/2017	4/17/2017	1.4	1	520	1	98	1	1.6	1	2600	1	4400	1	6.78	1
MW-63	FC-CCR-MW63-5217	05/02/2017	5/2/2017	1.4	1	510	1	92	1	2.5	1	4300	1	4300	1	6.79	1
MW-63	FC-CCR-MW63-52817	05/28/2017	5/28/2017	1.5	1	550	1	98	1	1.6	1	2700	1	4300	1	6.80	1
MW-63	FC-CCR-MW63-62117	06/21/2017	6/21/2017	1.6	1	520	1	100	1	1.9	1	2900	1	4400	1	6.78	1
MW-63	FC-CCR-MW63-72117	07/21/2017	7/21/2017	1.8	1	530	1	98	1	2	1	2900	1	4600	1	6.87	1
MW-63	FC-CCR-MW63-8917	08/09/2017	8/9/2017	1.9	1	530	1	97	1	1.9	1	2900	1	4500	1	6.56	1
MW-63	FC-CCR-MW63-81617	08/16/2017	8/16/2017	1.8	1	580	1	100	1	2.1	1	2700	1	4500	1	6.53	1
MW-63	FC-CCR-MW63-9917	09/09/2017	9/9/2017	2	1	540	1	97	1	2	1	2700	1	4300	1	6.83	1

Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	SampDate	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	Sulfate	D_Sulfate	DissolvedSolids	D_DissolvedSolids	Field_pH	D_Field_pH
MW-63	FC-CCR-MW63-101317	10/13/2017	10/13/2017	1.8	1	500	1	90	1	2	1	2700	1	4300	1	6.69	1
MW-63	FC-CCR-MW63-113017	11/30/2017	11/30/2017	1.7	1	560	1	91	1	1.8	1	2700	1	4500	1	6.72	1
MW-63	FC-CCR-MW63-4618	04/06/2018	4/6/2018	1.3	1	530	1	--	--	--	--	--	--	--	--	6.75	1
MW-63	FC-CCR-MW-63-6318	06/03/2018	6/3/2018	1.4	1	510	1	90	1	1.7	1	2600	1	4500	1	6.76	1
MW-63	FC-CCR-MW63-112818	11/02/2018	11/2/2018	1.9	1	550	1	88	1	1.9	1	2800	1	4300	1	6.66	1
MW-63	FC-CCR-MW63-5719-02	05/07/2019	5/7/2019	1.3	1	540	1	--	--	1.6	1	--	--	4400	1	6.63	1
MW-63	FC-CCR-MW63-120319	12/03/2019	12/3/2019	1.5	1	550	1	NA	0	1.8	1	NA	0	4300	1	6.58	1
MW-63	FC-CCR-MW63-0620	06/19/2020	6/19/2020	1.5	1	540	1	77	1	2.1	1	2400	1	4200	1	6.53	1
MW-63	FC-CCR-MW63-1120	11/05/2020	11/5/2020	1.7	1	550	1	85	1	2.2	1	2800	1	4200	1	6.72	1
MW-63	FC-CCR-MW63-0421	04/22/2021	4/22/2021	0.93	1	400	1	88	1	2	1	1900	1	3200	1	7.07	1
MW-63	FC-CCR-MW63-0721	07/08/2021	7/8/2021	--	--	--	--	--	--	--	--	--	--	--	--	7.21	1
MW-63	FC-CCR-MW63-1121	11/15/2021	11/15/2021	1.3	1	440	1	81	1	0.28	1	2100	1	3600	1	6.89	1
MW-64	FC-CCR-MW64-110515	11/05/2015	11/5/2015	0.64	1	87	1	49	1	1.5	1	320	1	780	1	7.64	1
MW-64	FC-CCR-MW-64-042716	04/27/2016	4/27/2016	0.62	1	90	1	53	1	1.4	1	340	1	810	1	7.50	1
MW-64	FC-CCR-MW64-616	06/05/2016	6/5/2016	0.58	1	86	1	52	1	1.4	1	350	1	800	1	7.29	1
MW-64	FC-CCR-MW64-816	08/20/2016	8/20/2016	0.65	1	89	1	46	1	1.3	1	330	1	790	1	7.68	1
MW-64	FC-CCR-MW64-916	09/12/2016	9/12/2016	0.67	1	90	1	52	1	1.5	1	320	1	790	1	7.54	1
MW-64	FC-CCR-MW64-1016	10/19/2016	10/19/2016	0.64	1	83	1	53	1	1.5	1	330	1	790	1	7.52	1
MW-64	FC-CCR-MW64-117	01/31/2017	1/31/2017	0.61	1	85	1	48	1	1.4	1	340	1	800	1	7.38	1
MW-64	FC-CCR-MW64-41717	04/17/2017	4/17/2017	0.58	1	85	1	51	1	1.4	1	870	1	800	1	7.53	1
MW-64	FC-CCR-MW64-5217	05/02/2017	5/2/2017	0.55	1	86	1	44	1	1.3	1	340	1	780	1	7.47	1
MW-64	FC-CCR-MW64-52817	05/28/2017	5/28/2017	0.55	1	93	1	51	1	1.5	1	380	1	780	1	7.45	1
MW-64	FC-CCR-MW64-62117	06/21/2017	6/21/2017	0.55	1	86	1	51	1	1.4	1	390	1	770	1	7.50	1
MW-64	FC-CCR-MW64-72117	07/21/2017	7/21/2017	0.59	1	88	1	52	1	1.5	1	370	1	790	1	7.61	1
MW-64	FC-CCR-MW64-8917	08/09/2017	8/9/2017	0.61	1	89	1	52	1	1.5	1	380	1	890	1	7.31	1
MW-64	FC-CCR-MW64-81617	08/16/2017	8/16/2017	0.58	1	89	1	53	1	1.5	1	360	1	790	1	7.29	1
MW-64	FC-CCR-MW64-9917	09/09/2017	9/9/2017	0.67	1	90	1	53	1	1.5	1	350	1	810	1	7.36	1
MW-64	FC-CCR-MW64-101317	10/13/2017	10/13/2017	0.62	1	82	1	52	1	1.4	1	360	1	790	1	7.42	1
MW-64	FC-CCR-MW64-113017	11/30/2017	11/30/2017	0.64	1	90	1	52	1	1.4	1	350	1	780	1	7.37	1
MW-64	FC-CCR-MW-64-6318	06/03/2018	6/3/2018	0.48	1	85	1	50	1	1.4	1	390	1	800	1	7.54	1
MW-64	FC-CCR-MW64-11218	11/02/2018	11/2/2018	0.64	1	88	1	50	1	1.4	1	350	1	760	1	7.43	1
MW-64	FC-CCR-MW64-5719-03	05/07/2019	5/7/2019	0.49	1	89	1	--	--	1.4	1	--	--	790	1	7.41	1
MW-64	FC-CCR-MW64-120319	12/03/2019	12/3/2019	0.56	1	82	1	NA	0	1.5	1	NA	0	720	1	7.29	1
MW-64	FC-CCR-MW64-0620	06/19/2020	6/19/2020	0.47	1	77	1	49	1	1.3	1	300	1	790	1	7.22	1
MW-64	FC-CCR-MW64-1120	11/05/2020	11/5/2020	0.51	1	73	1	53	1	1.6	1	270	1	720	1	7.49	1
MW-64	FC-CCR-MW64-0421	04/22/2021	4/22/2021	0.5	1	89	1	52	1	1.4	1	300	1	660	1	7.60	1
MW-64	FC-CCR-MW64-1121	11/15/2021	11/15/2021	0.58	1	72	1	51	1	1.4	1	270	1	680	1	7.29	1
MW-65	FC-CCR-MW65-110515	11/05/2015	11/5/2015	0.86	1	100	1	52	1	2	1	440	1	1000	1	7.50	1
MW-65	FC-CCR-MW-65-042716	04/27/2016	4/27/2016	0.76	1	110	1	55	1	1.8	1	460	1	1100	1	7.29	1
MW-65	FC-CCR-MW65-616	06/05/2016	6/5/2016	0.75	1	100	1	54	1	2	1	460	1	1100	1	7.08	1
MW-65	FC-CCR-MW65-816	08/20/2016	8/20/2016	0.79	1	100	1	52	1	1.7	1	450	1	1000	1	8.27	1
MW-65	FC-CCR-MW65-916	09/12/2016	9/12/2016	0.83	1	110	1	54	1	2	1	480	1	1100	1	7.52	1
MW-65	FC-CCR-MW65-1016	10/19/2016	10/19/2016	0.77	1	95	1	54	1	2	1	450	1	1000	1	7.36	1

Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	SampDate	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	Sulfate	D_Sulfate	DissolvedSolids	D_DissolvedSolids	Field_pH	D_Field_pH
MW-65	FC-CCR-MW65-117	02/01/2017	2/1/2017	0.76	1	96	1	51	1	1.8	1	410	1	970	1	7.35	1
MW-65	FC-CCR-MW65-41617	04/16/2017	4/16/2017	0.83	1	120	1	60	1	1.8	1	490	1	1300	1	7.21	1
MW-65	FC-CCR-MW65-5117	05/01/2017	5/1/2017	0.79	1	110	1	58	1	1.6	1	500	1	1100	1	7.24	1
MW-65	FC-CCR-MW65-52917	05/29/2017	5/29/2017	0.98	1	160	1	77	1	1.8	1	790	1	1500	1	7.10	1
MW-65	FC-CCR-MW65-62117	06/21/2017	6/21/2017	0.92	1	140	1	68	1	1.9	1	710	1	1400	1	7.06	1
MW-65	FC-CCR-MW65-72117	07/21/2017	7/21/2017	0.76	1	110	1	53	1	2	1	470	1	1000	1	7.31	1
MW-65	FC-CCR-MW65-8917	08/09/2017	8/9/2017	0.76	1	110	1	53	1	2	1	500	1	1000	1	7.15	1
MW-65	FC-CCR-MW65-81617	08/16/2017	8/16/2017	0.75	1	110	1	53	1	2	1	500	1	1000	1	6.96	1
MW-65	FC-CCR-MW65-9917	09/09/2017	9/9/2017	0.8	1	110	1	53	1	2	1	450	1	1000	1	7.04	1
MW-65	FC-CCR-MW65-101317	10/13/2017	10/13/2017	0.75	1	92	1	52	1	1.9	1	400	1	960	1	7.13	1
MW-65	FC-CCR-MW65-113017	11/30/2017	11/30/2017	0.79	1	100	1	53	1	2	1	410	1	990	1	7.21	1
MW-65	FC-CCR-MW-65-6318	06/03/2018	6/3/2018	0.62	1	98	1	52	1	1.9	1	480	1	1000	1	7.22	1
MW-65	FC-CCR-MW65-11218	11/02/2018	11/2/2018	0.77	1	100	1	51	1	1.9	1	420	1	940	1	7.18	1
MW-65	FC-CCR-MW65-5719-05	05/07/2019	5/7/2019	0.6	1	100	1	--	--	1.7	1	--	--	970	1	7.13	1
MW-65	FC-CCR-MW65-120319	12/03/2019	12/3/2019	0.65	1	89	1	NA	0	1.9	1	NA	0	850	1	7.10	1
MW-65	FC-CCR-MW65-0620	06/19/2020	6/19/2020	0.57	1	88	1	48	1	1.7	1	380	1	940	1	7.18	1
MW-65	FC-CCR-MW65-1120	11/05/2020	11/5/2020	0.61	1	82	1	52	1	2.1	1	350	1	780	1	7.36	1
MW-65	FC-CCR-MW65-0421	04/22/2021	4/22/2021	0.78	1	170	1	71	1	1.5	1	740	1	540	1	7.19	1
MW-65	FC-CCR-MW65-0721	07/08/2021	7/8/2021	0.87	1	--	--	--	--	--	--	--	--	--	--	7.40	1
MW-65	FC-CCR-MW65-1121	11/15/2021	11/15/2021	0.73	1	92	1	55	1	1.7	1	390	1	910	1	7.14	1
MW-65	FC-CCR-MW65-0222	2/9/2022	2/9/2022	0.71	1	--	--	--	--	--	--	--	--	--	--	7.17	1
MW-71	FC-CCR-MW-71-030516	03/05/2016	3/5/2016	0.44	1	450	1	660	1	0.05	0	8500	1	13000	1	7.73	1
MW-71	FC-CCR-MW-71-042616	04/26/2016	4/26/2016	0.69	1	470	1	670	1	2	0	13000	1	21000	1	6.58	1
MW-71	FC-CCR-MW71-616	06/06/2016	6/6/2016	0.7	1	460	1	750	1	0.4	0	13000	1	20000	1	6.47	1
MW-71	FC-CCR-MW71-816	08/21/2016	8/21/2016	0.56	1	450	1	590	1	0.8	0	8400	1	14000	1	7.04	1
MW-71	FC-CCR-MW71-916	09/12/2016	9/12/2016	0.58	1	460	1	570	1	0.4	0	9300	1	16000	1	6.86	1
MW-71	FC-CCR-MW71-1016	10/20/2016	10/20/2016	0.55	1	410	1	580	1	0.4	0	9100	1	15000	1	6.90	1
MW-71	FC-CCR-MW71-117	02/02/2017	2/2/2017	0.62	1	440	1	610	1	0.4	0	14000	1	17000	1	6.64	1
MW-71	FC-CCR-MW71-41717	04/17/2017	4/17/2017	0.52	1	400	1	550	1	2	0	9400	1	15000	1	6.81	1
MW-71	FC-CCR-MW71-5217	05/02/2017	5/2/2017	0.58	1	450	1	560	1	2	0	11000	1	15000	1	6.86	1
MW-71	FC-CCR-MW71-52917	05/29/2017	5/29/2017	0.58	1	460	1	580	1	2	0	9900	1	14000	1	6.76	1
MW-71	FC-CCR-MW71-62217	06/22/2017	6/22/2017	0.6	1	460	1	620	1	2	0	4600	1	17000	1	6.79	1
MW-71	FC-CCR-MW71-72117	07/21/2017	7/21/2017	0.55	1	450	1	590	1	2	0	10000	1	15000	1	7.00	1
MW-71	FC-CCR-MW71-81017	08/10/2017	8/10/2017	0.55	1	450	1	560	1	2	0	10000	1	15000	1	6.59	1
MW-71	FC-CCR-MW71-81717	08/17/2017	8/17/2017	0.56	1	480	1	570	1	2	0	9500	1	15000	1	6.62	1
MW-71	FC-CCR-MW71-91117	09/11/2017	9/11/2017	0.55	1	470	1	570	1	2	0	9900	1	15000	1	6.56	1
MW-71	FC-CCR-MW71-101317	10/13/2017	10/13/2017	0.54	1	420	1	570	1	2	0	10000	1	15000	1	6.79	1
MW-71	FC-CCR-MW71-113017	11/30/2017	11/30/2017	0.56	1	490	1	540	1	2	0	10000	1	15000	1	6.71	1
MW-71	FC-CCR-MW-71-6218	06/02/2018	6/2/2018	0.55	1	420	1	520	1	0.8	0	10000	1	15000	1	6.85	1
MW-71	FC-CCR-MW71-11318	11/03/2018	11/3/2018	0.56	1	470	1	520	1	0.8	0	11000	1	16000	1	6.81	1
MW-71	FC-CCR-MW71-031819	03/18/2019	3/18/2019	--	--	--	--	--	--	0.8	0	--	--	--	--	6.68	1
MW-71	FC-CCR-MW71-5719	05/06/2019	5/6/2019	0.5	1	400	1	--	--	0.8	0	--	--	16000	1	6.66	1
MW-71	FC-CCR-MW71-120219	12/02/2019	12/2/2019	0.50	1	440	1	500	1	0.8	0	10000	1	16000	1	6.66	1

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StationName	QC_SampleID	SampDate	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	Sulfate	D_Sulfate	DissolvedSolids	D_DissolvedSolids	Field_pH	D_Field_pH
MW-71	FC-CCR-MW71-0620	06/20/2020	6/20/2020	0.59	1	450	1	480	1	0.8	0	9900	1	15000	1	6.71	1
MW-71	FC-CCR-MW71-1120	11/05/2020	11/5/2020	0.59	1	460	1	490	1	0.4	0	10000	1	16000	1	6.78	1
MW-71	FC-CCR-MW71-0421	04/22/2021	4/22/2021	0.73	1	510	1	560	1	3.8	1	14000	1	19000	1	6.83	1
MW-71	FC-CCR-MW71-1121	11/12/2021	11/12/2021	0.54	1	440	1	560	1	0.14	1	12000	1	8000	1	6.74	1
MW-72	FC-CCR-MW72-030716	03/07/2016	3/7/2016	0.16	1	480	1	490	1	0.05	0	12000	1	17000	1	7.71	1
MW-72	FC-CCR-MW-72-042616	04/26/2016	4/26/2016	0.22	1	470	1	430	1	2	0	11000	1	19000	1	6.87	1
MW-72	FC-CCR-MW72-616	06/06/2016	6/6/2016	0.25	1	570	1	530	1	0.4	0	4500	1	9500	1	6.56	1
MW-72	FC-CCR-MW72-816	08/21/2016	8/21/2016	0.23	1	450	1	440	1	0.4	0	10000	1	17000	1	6.72	1
MW-72	FC-CCR-MW72-916	09/13/2016	9/13/2016	0.24	1	470	1	450	1	0.4	0	10000	1	17000	1	6.17	1
MW-72	FC-CCR-MW72-1016	10/20/2016	10/20/2016	0.23	1	400	1	480	1	0.4	0	11000	1	17000	1	6.84	1
MW-72	FC-CCR-MW72-117	02/02/2017	2/2/2017	0.23	1	420	1	430	1	0.4	0	11000	1	16000	1	6.63	1
MW-72	FC-CCR-MW72-41717	04/17/2017	4/17/2017	0.2	1	440	1	450	1	2	0	610	1	17000	1	6.73	1
MW-72	FC-CCR-MW72-5217	05/02/2017	5/2/2017	0.25	1	430	1	450	1	2	0	11000	1	16000	1	6.83	1
MW-72	FC-CCR-MW72-52917	05/29/2017	5/29/2017	0.25	1	470	1	460	1	2	0	11000	1	15000	1	6.68	1
MW-72	FC-CCR-MW72-62217	06/22/2017	6/22/2017	0.23	1	450	1	450	1	2	0	11000	1	17000	1	6.65	1
MW-72	FC-CCR-MW72-72117	07/21/2017	7/21/2017	0.23	1	450	1	460	1	2	0	11000	1	17000	1	6.93	1
MW-72	FC-CCR-MW72-81017	08/10/2017	8/10/2017	0.21	1	450	1	460	1	2	0	11000	1	17000	1	6.47	1
MW-72	FC-CCR-MW72-81717	08/17/2017	8/17/2017	0.26	1	490	1	450	1	2	0	11000	1	17000	1	6.18	1
MW-72	FC-CCR-MW72-91017	09/10/2017	9/10/2017	0.21	1	470	1	460	1	2	0	11000	1	17000	1	6.61	1
MW-72	FC-CCR-MW72-101317	10/13/2017	10/13/2017	0.22	1	430	1	450	1	2	0	11000	1	16000	1	6.65	1
MW-72	FC-CCR-MW72-113017	11/30/2017	11/30/2017	0.22	1	500	1	450	1	2	0	10000	1	16000	1	6.63	1
MW-72	FC-CCR-MW-72-6218	06/02/2018	6/2/2018	0.21	1	410	1	450	1	0.8	0	11000	1	16000	1	6.75	1
MW-72	FC-CCR-MW72-11318	11/03/2018	11/3/2018	0.22	1	470	1	450	1	0.8	0	11000	1	16000	1	6.75	1
MW-72	FC-CCR-MW72-031719	03/17/2019	3/17/2019	--	--	--	--	--	--	0.8	0	--	--	--	--	6.68	1
MW-72	FC-CCR-MW72-5719	05/06/2019	5/6/2019	0.22	1	400	1	--	--	0.8	0	--	--	16000	1	6.85	1
MW-72	FC-CCR-MW72-120219	12/02/2019	12/2/2019	0.19	1	430	1	430	1	0.8	0	11000	1	16000	1	6.62	1
MW-72	FC-CCR-MW72-0620	06/19/2020	6/19/2020	0.23	1	440	1	400	1	0.8	0	11000	1	16000	1	6.65	1
MW-72	FC-CCR-MW72-1120	11/05/2020	11/5/2020	0.24	1	470	1	430	1	0.4	0	10000	1	16000	1	6.70	1
MW-72	FC-CCR-MW72-0421	04/22/2021	4/22/2021	0.25	1	480	1	400	1	0.8	0	10000	1	16000	1	6.89	1
MW-72	FC-CCR-MW72-1121	11/12/2021	11/12/2021	0.22	1	440	1	450	1	0.8	0	11000	1	14000	1	6.64	1
MW-73	FC-CCR-MW73-117	02/02/2017	2/2/2017	1.6	1	480	1	380	1	0.4	0	5400	1	8800	1	6.65	1
MW-73	FC-CCR-MW73-41817	04/18/2017	4/18/2017	1.6	1	450	1	340	1	0.8	0	5700	1	9200	1	6.70	1
MW-73	FC-CCR-MW73-5217	05/02/2017	5/2/2017	1.6	1	470	1	570	1	0.8	0	6900	1	11000	1	6.70	1
MW-73	FC-CCR-MW73-52917	05/29/2017	5/29/2017	1.8	1	510	1	290	1	0.8	0	4300	1	6100	1	6.70	1
MW-73	FC-CCR-MW73-62217	06/22/2017	6/22/2017	1.6	1	490	1	450	1	0.8	0	6700	1	11000	1	6.74	1
MW-73	FC-CCR-MW73-72217	07/22/2017	7/22/2017	1.6	1	490	1	520	1	0.8	0	8000	1	12000	1	6.83	1
MW-73	FC-CCR-MW73-81017	08/10/2017	8/10/2017	1.7	1	500	1	540	1	0.8	0	7700	1	12000	1	6.45	1
MW-73	FC-CCR-MW73-81717	08/17/2017	8/17/2017	1.7	1	540	1	550	1	0.8	0	7600	1	11000	1	6.50	1
MW-73	FC-CCR-MW73-91017	09/10/2017	9/10/2017	1.9	1	520	1	470	1	0.8	0	6000	1	9900	1	6.62	1
MW-73	FC-CCR-MW73-101217	10/12/2017	10/12/2017	2	1	510	1	310	1	0.8	0	3900	1	6600	1	6.64	1
MW-73	FC-CCR-MW73-113017	11/30/2017	11/30/2017	1.8	1	550	1	420	1	0.8	0	5600	1	8900	1	6.61	1
MW-73	FC-CCR-MW-73-6218	06/02/2018	6/2/2018	1.6	1	460	1	550	1	0.8	0	7100	1	12000	1	6.67	1
MW-73	FC-CCR-MW73-11318	11/03/2018	11/3/2018	1.7	1	480	1	660	1	0.8	0	7500	1	12000	1	6.64	1

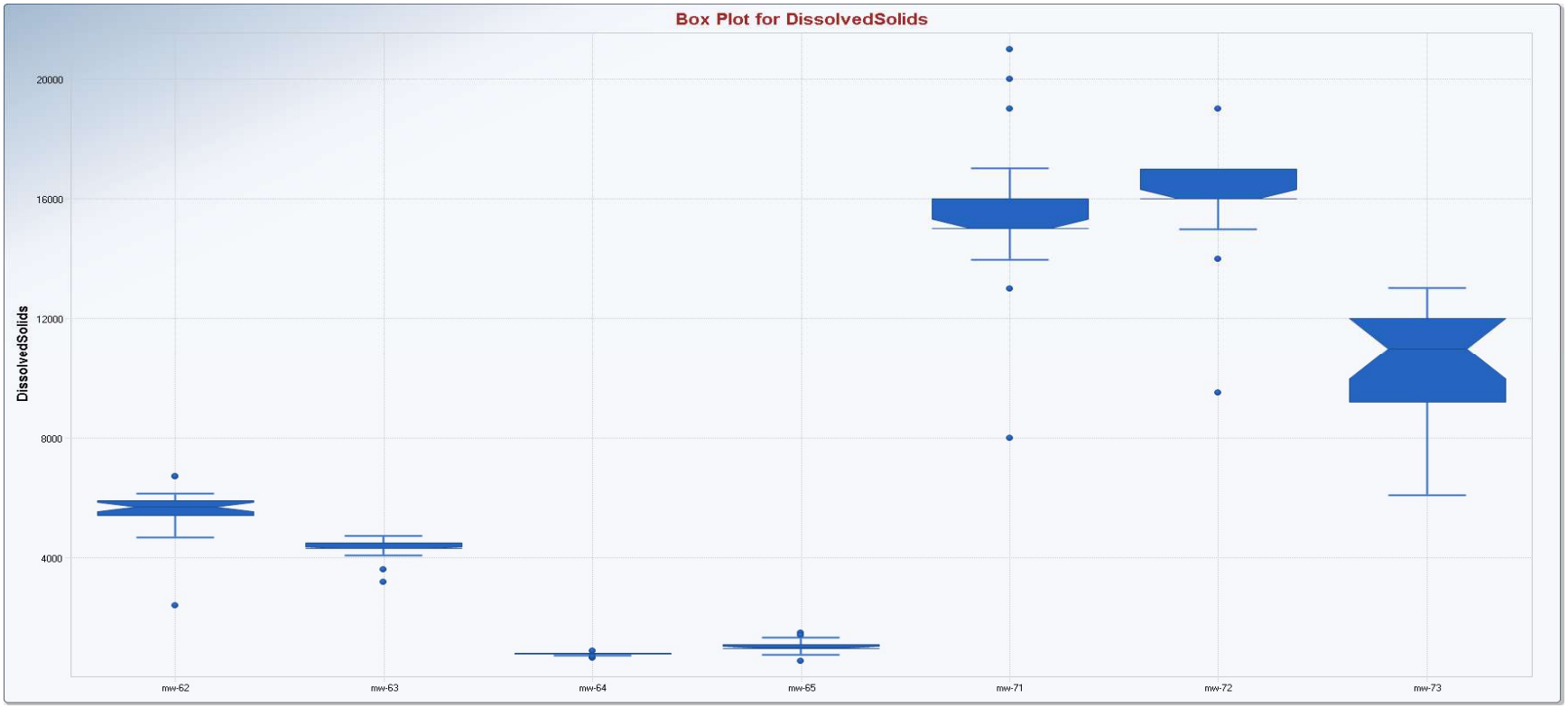
Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	SampDate	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	Sulfate	D_Sulfate	DissolvedSolids	D_DissolvedSolids	Field_pH	D_Field_pH
MW-73	FC-CCR-MW73-031819	03/18/2019	3/18/2019	--	--	--	--	--	--	0.8	0	--	--	--	--	6.95	1
MW-73	FC-CCR-MW73-5619	05/06/2019	5/6/2019	1.6	1	420	1	--	--	0.8	0	--	--	13000	1	6.51	1
MW-73	FC-CCR-MW73-120219	12/02/2019	12/2/2019	1.6	1	460	1	520	1	0.8	0	7100	1	11000	1	6.49	1
MW-73	FC-CCR-MW73-0620	06/20/2020	6/20/2020	1.7	1	450	1	520	1	0.8	0	7200	1	12000	1	6.53	1
MW-73	FC-CCR-MW73-1120	11/05/2020	11/5/2020	1.6	1	480	1	530	1	0.063	1	7100	1	12000	1	6.65	1
MW-73	FC-CCR-MW73-0421	04/22/2021	4/22/2021	1.6	1	530	1	380	1	0.4	0	5700	1	9700	1	6.76	1
MW-73	FC-CCR-MW73-1121	11/13/2021	11/13/2021	1.6	1	460	1	560	1	0.12	1	7400	1	9600	1	6.48	1

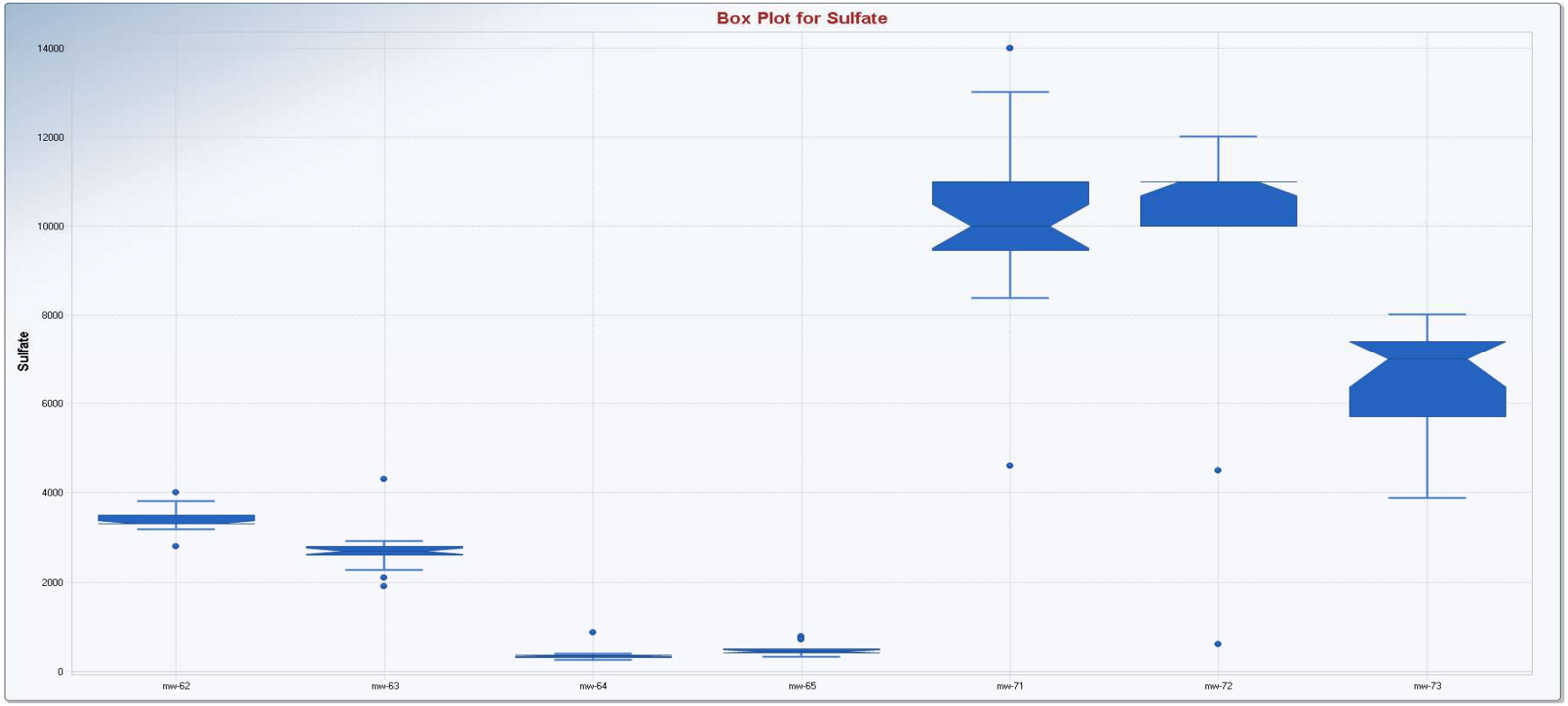
APPENDIX B

PROUCL EDA OUTPUT FILES

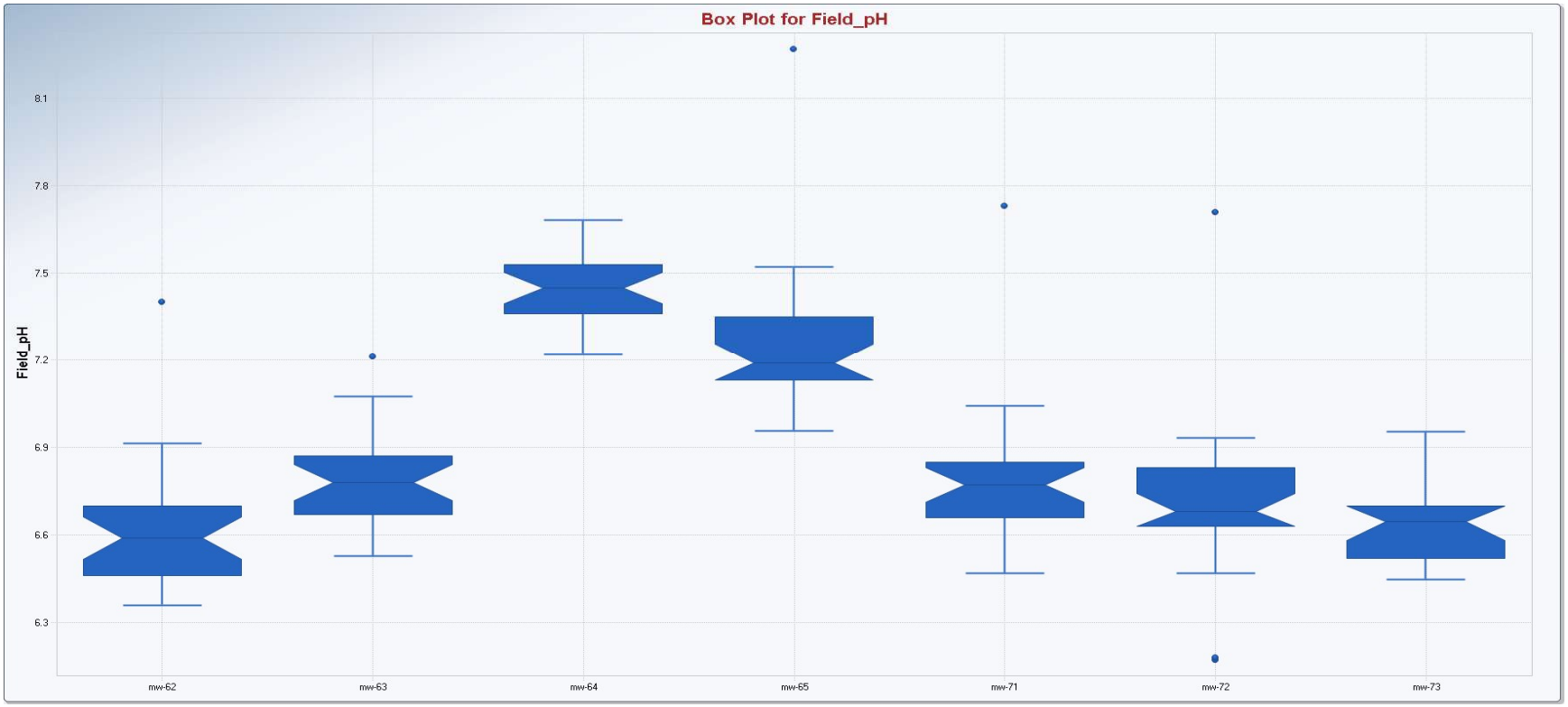
Appendix B
Box and Whisker Plots



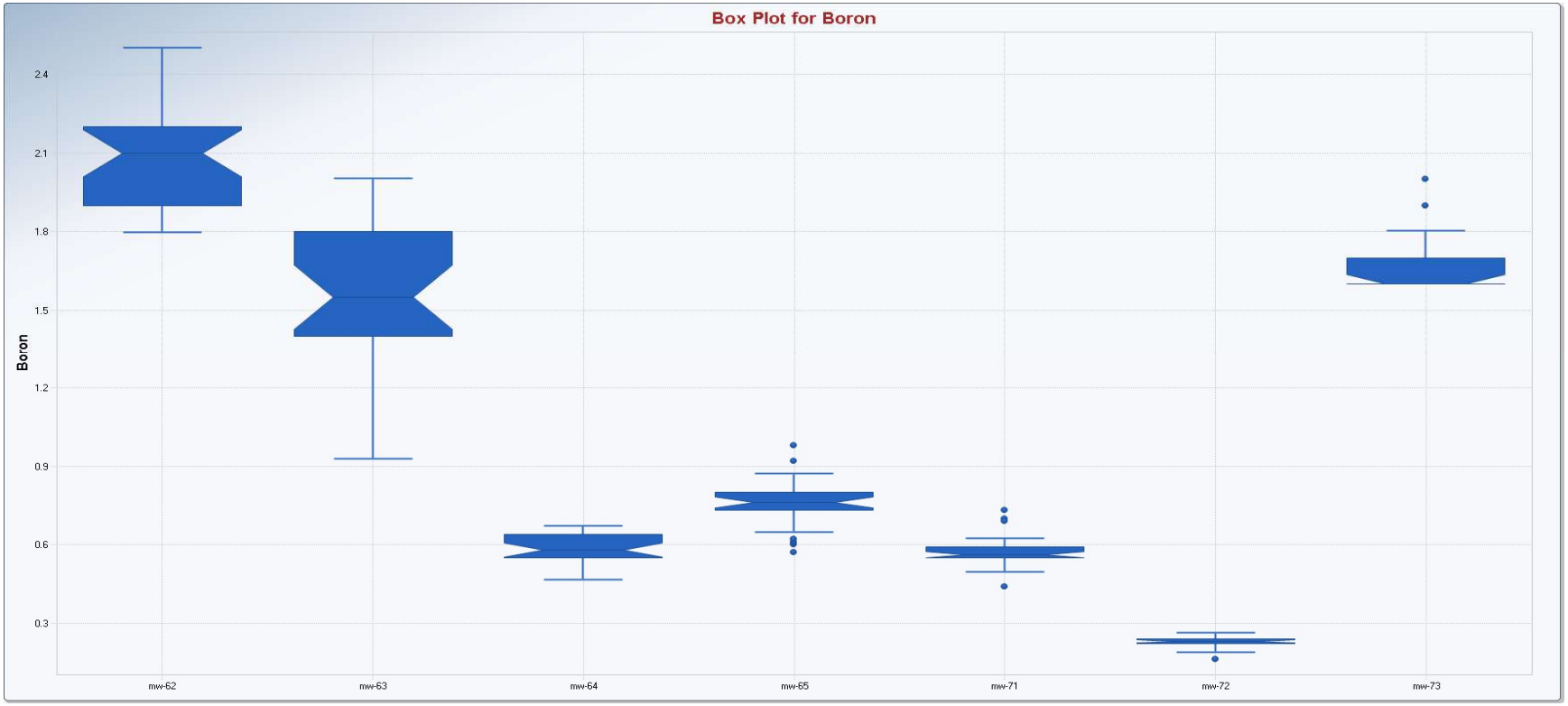
Appendix B
Box and Whisker Plots



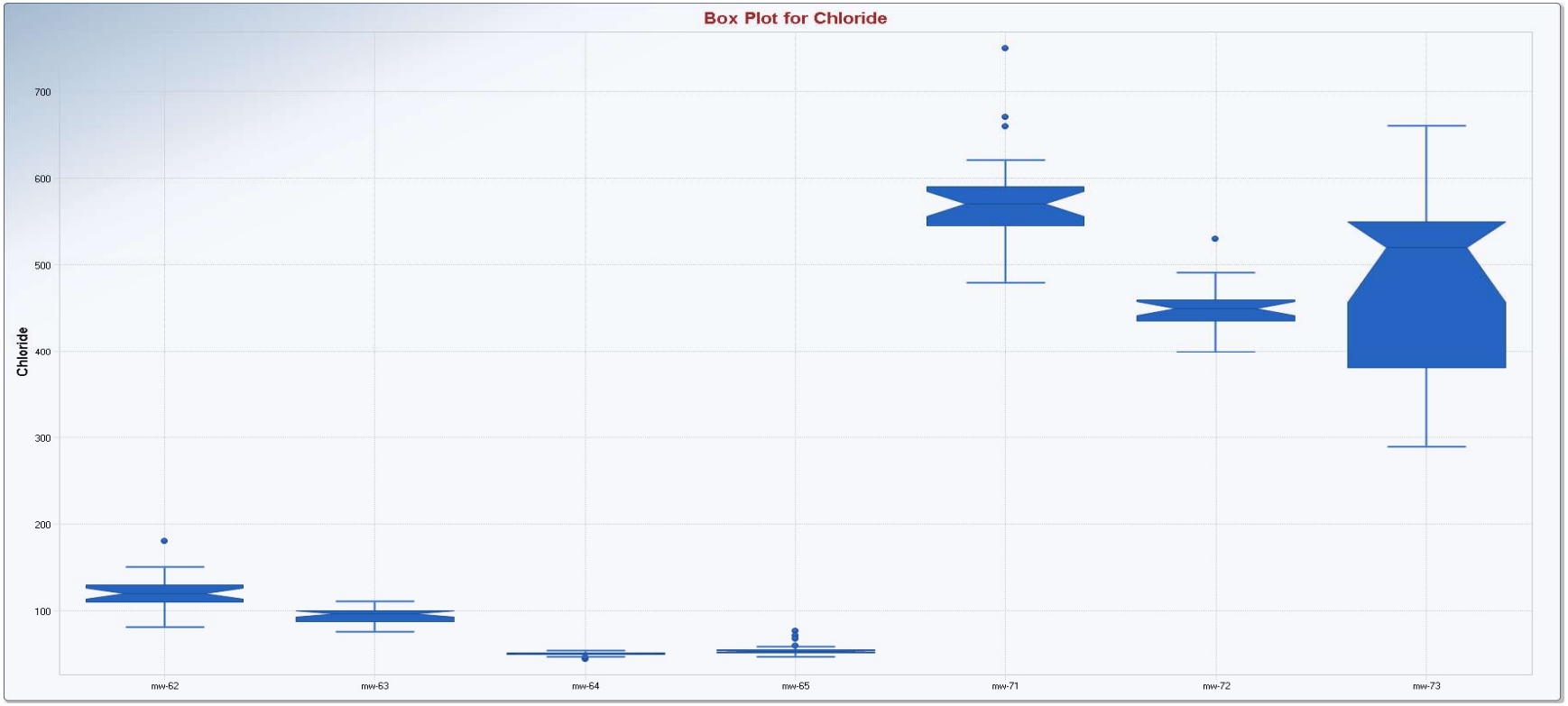
Appendix B
Box and Whisker Plots



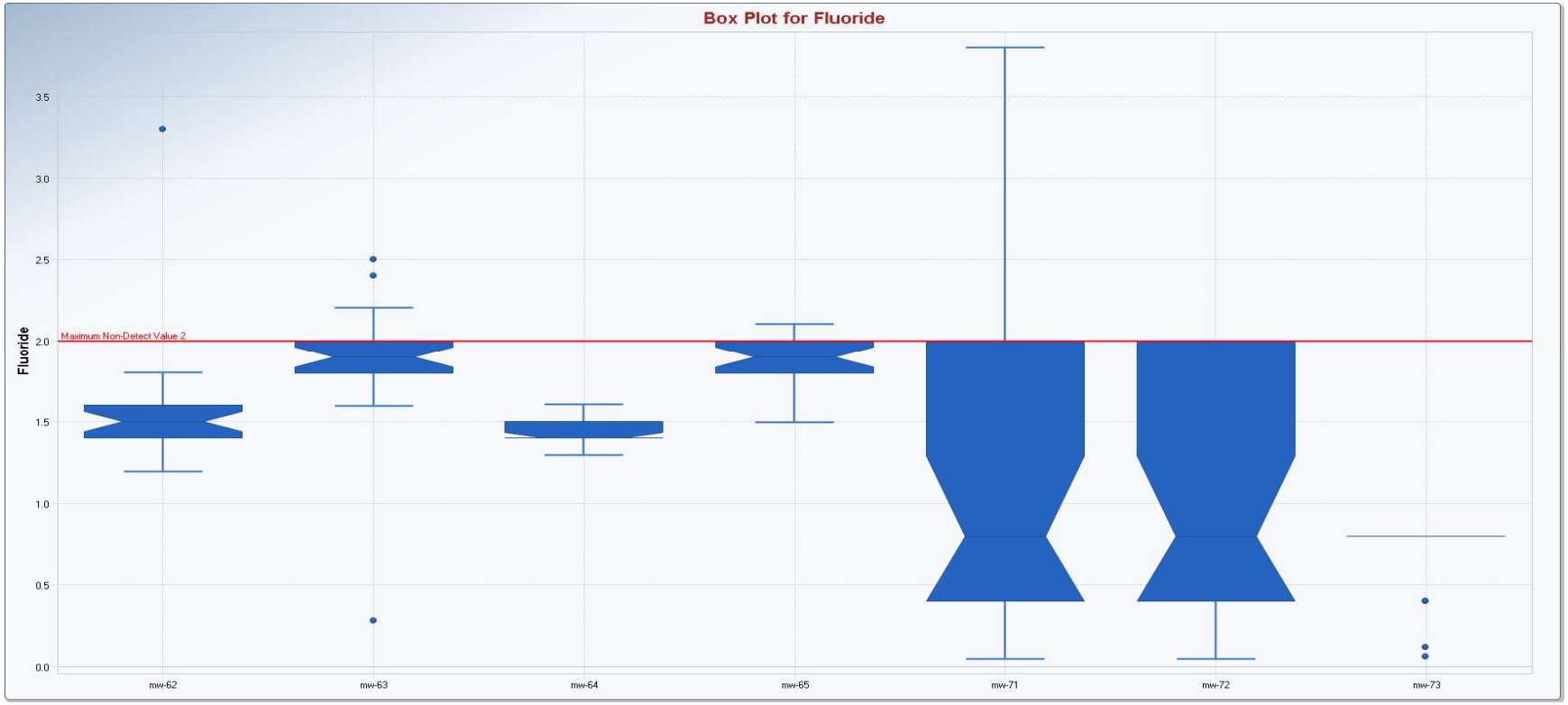
Appendix B
Box and Whisker Plots



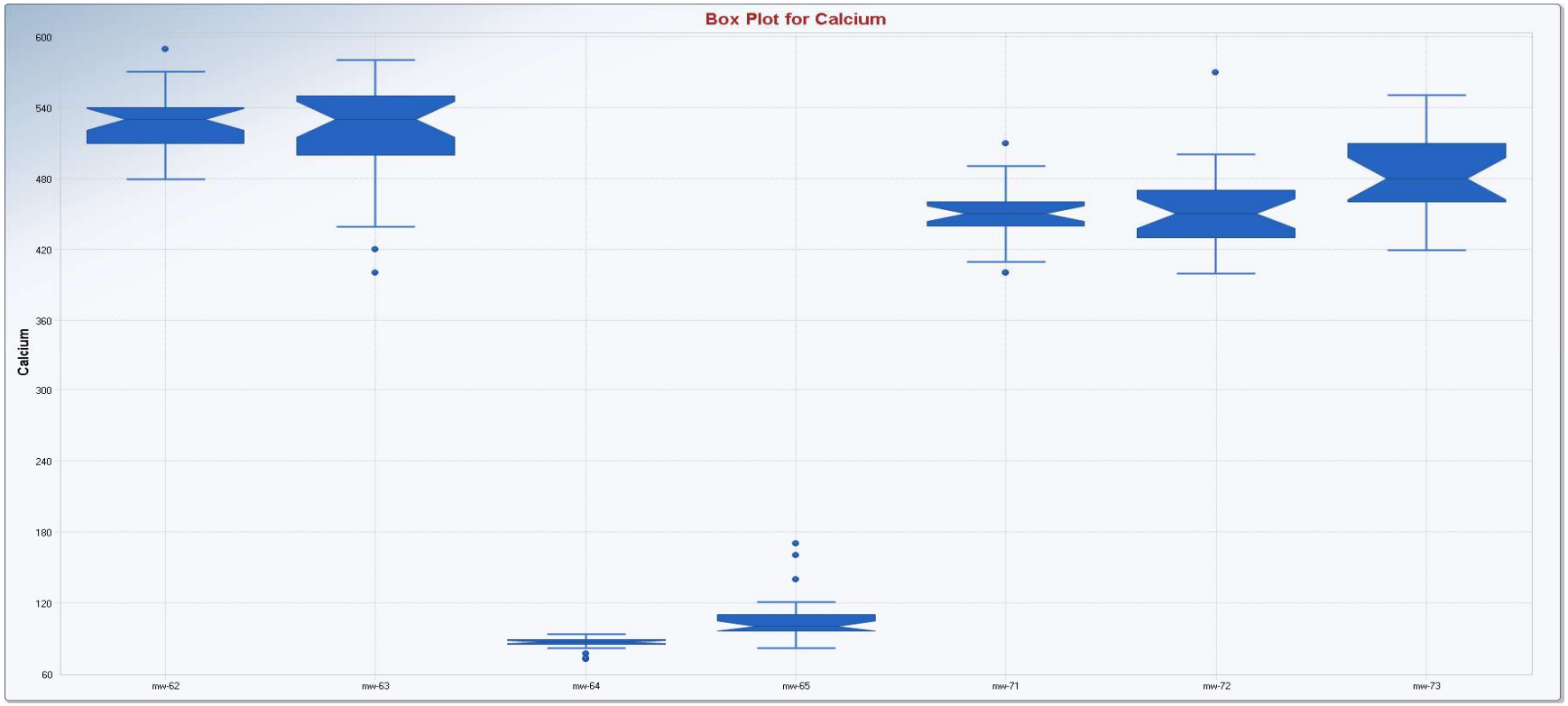
Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Outlier Statistics

	Outlier Tests for Selected Uncensored Variables
User Selected Options	Compliance Wells
Date/Time of Computation	ProUCL 5.13/5/2022 3:13:05 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF

Rosner's Outlier Test for Boron (mw-62)

Mean	**2.085**
Standard Deviation	**0.188**
Number of data	**27**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	2.085	0.184	2.5	5	2.254	2.86	3.18

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Boron (mw-63)

Mean	**1.578**
Standard Deviation	**0.266**
Number of data	**26**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	1.578	0.261	0.93	25	2.486	2.84	3.16

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Appendix B
Outlier Statistics

Rosner's Outlier Test for Boron (mw-64)

Mean	**0.583**
Standard Deviation	**0.0595**
Number of data	**25**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	0.583	0.0583	0.47	22	1.942	2.82	3.14

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Boron (mw-65)

Mean	**0.761**
Standard Deviation	**0.0941**
Number of data	**27**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	0.761	0.0924	0.98	10	2.366	2.86	3.18

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Calcium (mw-62)

Mean	**530**

Appendix B
Outlier Statistics

		Standard Deviation	27.57				
		Number of data	26				
		Number of suspected outliers	1				
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	530	27.03	590	14	2.22	2.84	3.16

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Calcium (mw-63)

		Mean	516.5				
		Standard Deviation	42.8				
		Number of data	26				
		Number of suspected outliers	1				
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	516.5	41.97	400	25	2.777	2.84	3.16

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Calcium (mw-64)

		Mean	85.72				
		Standard Deviation	5.224				
		Number of data	25				
		Number of suspected outliers	1				
			Potential	Obs.	Test	Critical	Critical

Appendix B
Outlier Statistics

#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	85.72	5.119	72	25	2.68	2.82	3.14

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Calcium (mw-65)

Mean	**107.7**
Standard Deviation	**20.9**
Number of data	**25**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	107.7	20.48	170	24	3.043	2.82	3.14

For 5% Significance Level, there is 1 Potential Outlier

Potential outliers is: 170

For 1% Significance Level, there is no Potential Outlier

Dixon's Outlier Test for Chloride (mw-62)

Number of Observations = 23

10% critical value: 0.374

5% critical value: 0.421

1% critical value: 0.505

1. Observation Value 180 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.429

For 10% significance level, 180 is an outlier.

For 5% significance level, 180 is an outlier.

Appendix B
Outlier Statistics

For 1% significance level, 180 is not an outlier.

2. Observation Value 82 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.412

For 10% significance level, 82 is an outlier.
For 5% significance level, 82 is not an outlier.
For 1% significance level, 82 is not an outlier.

Dixon's Outlier Test for Chloride (mw-63)

Number of Observations = 23
10% critical value: 0.374
5% critical value: 0.421
1% critical value: 0.505

1. Observation Value 110 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.345

For 10% significance level, 110 is not an outlier.
For 5% significance level, 110 is not an outlier.
For 1% significance level, 110 is not an outlier.

2. Observation Value 77 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.174

For 10% significance level, 77 is not an outlier.
For 5% significance level, 77 is not an outlier.
For 1% significance level, 77 is not an outlier.

Dixon's Outlier Test for Chloride (mw-64)

Number of Observations = 23
10% critical value: 0.374

Appendix B
Outlier Statistics

5% critical value: 0.421
1% critical value: 0.505

1. Observation Value 53 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.000

For 10% significance level, 53 is not an outlier.
For 5% significance level, 53 is not an outlier.
For 1% significance level, 53 is not an outlier.

2. Observation Value 44 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.444

For 10% significance level, 44 is an outlier.
For 5% significance level, 44 is an outlier.
For 1% significance level, 44 is not an outlier.

Dixon's Outlier Test for Chloride (mw-65)

Number of Observations = 23
10% critical value: 0.374
5% critical value: 0.421
1% critical value: 0.505

1. Observation Value 77 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.346

For 10% significance level, 77 is not an outlier.
For 5% significance level, 77 is not an outlier.
For 1% significance level, 77 is not an outlier.

2. Observation Value 48 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.150

Appendix B
Outlier Statistics

For 10% significance level, 48 is not an outlier.
For 5% significance level, 48 is not an outlier.
For 1% significance level, 48 is not an outlier.

Rosner's Outlier Test for Fluoride (mw-62)

Mean	**1.538**
Standard Deviation	**0.392**
Number of data	**26**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	1.538	0.384	3.3	9	4.583	2.84	3.16

For 5% Significance Level, there is 1 Potential Outlier
Potential outliers is: 3.3

For 1% Significance Level, there is 1 Potential Outlier
Potential outliers is: 3.3

Rosner's Outlier Test for Fluoride (mw-63)

Mean	**1.883**
Standard Deviation	**0.4**
Number of data	**25**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	1.883	0.392	0.28	25	4.092	2.82	3.14

For 5% Significance Level, there is 1 Potential Outlier
Potential outliers is: 0.28

Appendix B
Outlier Statistics

For 1% Significance Level, there is 1 Potential Outlier

Potential outliers is: 0.28

Rosner's Outlier Test for Fluoride (mw-64)

Mean	**1.432**
Standard Deviation	**0.0748**
Number of data	**25**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	1.432	0.0733	1.6	23	2.291	2.82	3.14

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Fluoride (mw-65)

Mean	**1.868**
Standard Deviation	**0.152**
Number of data	**25**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	1.868	0.149	1.5	24	2.471	2.82	3.14

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Dixon's Outlier Test for Sulfate (mw-62)

Appendix B
Outlier Statistics

Number of Observations = 23
10% critical value: 0.374
5% critical value: 0.421
1% critical value: 0.505

1. Observation Value 4000 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.500

For 10% significance level, 4000 is an outlier.
For 5% significance level, 4000 is an outlier.
For 1% significance level, 4000 is not an outlier.

2. Observation Value 2800 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.500

For 10% significance level, 2800 is an outlier.
For 5% significance level, 2800 is an outlier.
For 1% significance level, 2800 is not an outlier.

Dixon's Outlier Test for Sulfate (mw-63)

Number of Observations = 23
10% critical value: 0.374
5% critical value: 0.421
1% critical value: 0.505

1. Observation Value 4300 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.700

For 10% significance level, 4300 is an outlier.
For 5% significance level, 4300 is an outlier.
For 1% significance level, 4300 is an outlier.

2. Observation Value 1900 is a Potential Outlier (Lower Tail)?

Appendix B
Outlier Statistics

Test Statistic: 0.400

For 10% significance level, 1900 is an outlier.
For 5% significance level, 1900 is not an outlier.
For 1% significance level, 1900 is not an outlier.

Dixon's Outlier Test for Sulfate (mw-64)

Number of Observations = 23
10% critical value: 0.374
5% critical value: 0.421
1% critical value: 0.505

1. Observation Value 870 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 870 is an outlier.
For 5% significance level, 870 is an outlier.
For 1% significance level, 870 is an outlier.

2. Observation Value 270 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.250

For 10% significance level, 270 is not an outlier.
For 5% significance level, 270 is not an outlier.
For 1% significance level, 270 is not an outlier.

Dixon's Outlier Test for Sulfate (mw-65)

Number of Observations = 23
10% critical value: 0.374
5% critical value: 0.421
1% critical value: 0.505

Appendix B
Outlier Statistics

1. Observation Value 790 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.200

For 10% significance level, 790 is not an outlier.
For 5% significance level, 790 is not an outlier.
For 1% significance level, 790 is not an outlier.

2. Observation Value 350 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.111

For 10% significance level, 350 is not an outlier.
For 5% significance level, 350 is not an outlier.
For 1% significance level, 350 is not an outlier.

Rosner's Outlier Test for DissolvedSolids (mw-62)

Mean	**5572**
Standard Deviation	**789.3**
Number of data	**25**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	5572	773.3	2400	5	4.102	2.82	3.14

For 5% Significance Level, there is 1 Potential Outlier
Potential outliers is: 2400

For 1% Significance Level, there is 1 Potential Outlier
Potential outliers is: 2400

Rosner's Outlier Test for DissolvedSolids (mw-63)

Appendix B
Outlier Statistics

Mean	**4308**
Standard Deviation	**317.4**
Number of data	**25**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	4308	311	3200	24	3.562	2.82	3.14

For 5% Significance Level, there is 1 Potential Outlier

Potential outliers is: 3200

For 1% Significance Level, there is 1 Potential Outlier

Potential outliers is: 3200

Rosner's Outlier Test for DissolvedSolids (mw-64)

Mean	**778.4**
Standard Deviation	**44.88**
Number of data	**25**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	778.4	43.97	660	24	2.693	2.82	3.14

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for DissolvedSolids (mw-65)

Mean	**1018**
Standard Deviation	**186.3**
Number of data	**25**

Appendix B
Outlier Statistics

Number of suspected outliers	1						
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	1018	182.6	1500	10	2.64	2.82	3.14

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Field_pH (mw-62)

Mean	6.62
Standard Deviation	0.214
Number of data	27
Number of suspected outliers	1

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	6.62	0.21	7.4	4	3.719	2.86	3.18

For 5% Significance Level, there is 1 Potential Outlier

Potential outliers is: 7.4

For 1% Significance Level, there is 1 Potential Outlier

Potential outliers is: 7.4

Rosner's Outlier Test for Field_pH (mw-63)

Mean	6.779
Standard Deviation	0.161
Number of data	27
Number of suspected outliers	1

			Potential	Obs.	Test	Critical	Critical

Appendix B
Outlier Statistics

#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	6.779	0.158	7.21	26	2.721	2.86	3.18

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Field_pH (mw-64)

Mean	**7.445**
Standard Deviation	**0.124**
Number of data	**25**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	7.445	0.121	7.68	4	1.935	2.82	3.14

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Field_pH (mw-65)

Mean	**7.254**
Standard Deviation	**0.244**
Number of data	**27**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	7.254	0.24	8.27	4	4.241	2.86	3.18

For 5% Significance Level, there is 1 Potential Outlier

Potential outliers is: 8.27

Appendix B
Outlier Statistics

For 1% Significance Level, there is 1 Potential Outlier

Potential outliers is: 8.27

	Outlier Tests for Selected Uncensored Variables
User Selected Options	
Date/Time of Computation	ProUCL 5.13/11/2022 1:20:00 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_b.xls
Full Precision	OFF

Rosner's Outlier Test for Boron (mw71_mw72)

Mean	**0.398**
Standard Deviation	**0.181**
Number of data	**50**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	0.398	0.179	0.73	47	1.849	3.13	3.48

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Calcium (mw71_mw72)

Mean	**450.4**
Standard Deviation	**26.53**
Number of data	**49**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	450.4	26.26	510	46	2.269	3.12	3.47

Appendix B
Outlier Statistics

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

	Outlier Tests for Selected Uncensored Variables
User Selected Options	
Date/Time of Computation	ProUCL 5.13/11/2022 9:28:34 AM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF

Rosner's Outlier Test for Chloride (mw71_72_73)

Mean	**502**
Standard Deviation	**85.47**
Number of data	**66**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	502	84.82	750	3	2.924	3.236	3.596

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Sulfate (mw71_72_73)

Mean	**9190**
Standard Deviation	**2577**
Number of data	**66**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	9190	2558	610	32	3.354	3.236	3.596

Appendix B
Outlier Statistics

For 5% Significance Level, there is 1 Potential Outlier

Potential outliers is: 610

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for DissolvedSolids (mw71_72_73)

Mean	**14338**
Standard Deviation	**3156**
Number of data	**69**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	14338	3133	6100	54	2.629	3.254	3.614

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for Field_pH (mw71_72_73)

Mean	**6.717**
Standard Deviation	**0.231**
Number of data	**72**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	6.717	0.229	7.73	1	4.422	3.27	3.63

For 5% Significance Level, there is 1 Potential Outlier

Potential outliers is: 7.73

Appendix B
Outlier Statistics

For 1% Significance Level, there is 1 Potential Outlier

Potential outliers is: 7.73

	Outlier Tests for Selected Uncensored Variables
User Selected Options	**pH Outlier Removed**
Date/Time of Computation	ProUCL 5.13/11/2022 10:45:27 AM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF

Rosner's Outlier Test for Field_pH (mw71_72_73)

Mean	**6.704**
Standard Deviation	**0.132**
Number of data	**68**
Number of suspected outliers	**1**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	6.704	0.131	7.04	3	2.57	3.248	3.608

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

	Outlier Tests for Selected Uncensored Variables
User Selected Options	
Date/Time of Computation	ProUCL 5.13/11/2022 9:34:47 AM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_a.xls
Full Precision	OFF

Dixon's Outlier Test for Boron (mw-73)

Number of Observations = 19

10% critical value: 0.412

5% critical value: 0.462

1% critical value: 0.547

Appendix B
Outlier Statistics

1. Observation Value 2 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.500

For 10% significance level, 2 is an outlier.
For 5% significance level, 2 is an outlier.
For 1% significance level, 2 is not an outlier.

2. Observation Value 1.6 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 1.6 is not an outlier.
For 5% significance level, 1.6 is not an outlier.
For 1% significance level, 1.6 is not an outlier.

Dixon's Outlier Test for Calcium (mw-73)

Number of Observations = 19
10% critical value: 0.412
5% critical value: 0.462
1% critical value: 0.547

1. Observation Value 550 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.200

For 10% significance level, 550 is not an outlier.
For 5% significance level, 550 is not an outlier.
For 1% significance level, 550 is not an outlier.

2. Observation Value 420 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.273

For 10% significance level, 420 is not an outlier.
For 5% significance level, 420 is not an outlier.

Appendix B
Outlier Statistics

For 1% significance level, 420 is not an outlier.							

Appendix B
Goodness of Fit Statistics

	Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects
User Selected Options	Compliance Wells
Date/Time of Computation	ProUCL 5.13/5/2022 2:31:33 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95

Boron (mw-62)

Raw Statistics	
Number of Valid Observations	27
Number of Missing Observations	1
Number of Distinct Observations	8
Minimum	1.8
Maximum	2.5
Mean of Raw Data	2.085
Standard Deviation of Raw Data	0.188
Khat	130
Theta hat	0.016
Kstar	115.6
Theta star	0.018
Mean of Log Transformed Data	0.731
Standard Deviation of Log Transformed Data	0.0892
Normal GOF Test Results	
Correlation Coefficient R	0.972
Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.114
Lilliefors Test Statistic	0.172
Lilliefors Critical (0.05) Value	0.167
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.975
A-D Test Statistic	0.705
A-D Critical (0.05) Value	0.744

Appendix B
Goodness of Fit Statistics

K-S Test Statistic	0.178
K-S Critical(0.05) Value	0.168
Data follow Appr. Gamma Distribution at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.974
Shapiro Wilk Test Statistic	0.94
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.134
Lilliefors Test Statistic	0.174
Lilliefors Critical (0.05) Value	0.167
Data appear Approximate_Lognormal at (0.05) Significance Level	
Boron (mw-63)	
Raw Statistics	
Number of Valid Observations	26
Number of Missing Observations	1
Number of Distinct Observations	9
Minimum	0.93
Maximum	2
Mean of Raw Data	1.578
Standard Deviation of Raw Data	0.266
Khat	34.5
Theta hat	0.0457
Kstar	30.54
Theta star	0.0517
Mean of Log Transformed Data	0.442
Standard Deviation of Log Transformed Data	0.178
Normal GOF Test Results	
Correlation Coefficient R	0.975
Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.23
Lilliefors Test Statistic	0.133
Lilliefors Critical (0.05) Value	0.17

Appendix B
Goodness of Fit Statistics

Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.968
A-D Test Statistic	0.514
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.121
K-S Critical(0.05) Value	0.171
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.96
Shapiro Wilk Test Statistic	0.925
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.065
Lilliefors Test Statistic	0.118
Lilliefors Critical (0.05) Value	0.17
Data appear Lognormal at (0.05) Significance Level	
Boron (mw-64)	
Raw Statistics	
Number of Valid Observations	25
Number of Distinct Observations	14
Minimum	0.47
Maximum	0.67
Mean of Raw Data	0.583
Standard Deviation of Raw Data	0.0595
Khat	96.6
Theta hat	0.00604
Kstar	85.03
Theta star	0.00686
Mean of Log Transformed Data	-0.544
Standard Deviation of Log Transformed Data	0.105
Normal GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.977
Shapiro Wilk Test Statistic	0.941
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.164
Lilliefors Test Statistic	0.119
Lilliefors Critical (0.05) Value	0.173
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.97
A-D Test Statistic	0.565
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.132
K-S Critical(0.05) Value	0.174
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.971
Shapiro Wilk Test Statistic	0.929
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.0865
Lilliefors Test Statistic	0.139
Lilliefors Critical (0.05) Value	0.173
Data appear Lognormal at (0.05) Significance Level	
Boron (mw-65)	
Raw Statistics	
Number of Valid Observations	27
Number of Distinct Observations	18
Minimum	0.57
Maximum	0.98
Mean of Raw Data	0.761
Standard Deviation of Raw Data	0.0941
Khat	66.13
Theta hat	0.0115
Kstar	58.8

Appendix B
Goodness of Fit Statistics

Theta star	0.0129
Mean of Log Transformed Data	-0.28
Standard Deviation of Log Transformed Data	0.127
Normal GOF Test Results	
Correlation Coefficient R	0.972
Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.204
Lilliefors Test Statistic	0.192
Lilliefors Critical (0.05) Value	0.167
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.971
A-D Test Statistic	0.851
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.208
K-S Critical(0.05) Value	0.168
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.965
Shapiro Wilk Test Statistic	0.934
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.0962
Lilliefors Test Statistic	0.217
Lilliefors Critical (0.05) Value	0.167
Data appear Approximate_Lognormal at (0.05) Significance Level	
Calcium (mw-62)	
Raw Statistics	
Number of Valid Observations	26
Number of Missing Observations	2
Number of Distinct Observations	10

Appendix B
Goodness of Fit Statistics

Minimum	480
Maximum	590
Mean of Raw Data	530
Standard Deviation of Raw Data	27.57
Khat	387.7
Theta hat	1.367
Kstar	343
Theta star	1.545
Mean of Log Transformed Data	6.272
Standard Deviation of Log Transformed Data	0.0517
Normal GOF Test Results	
Correlation Coefficient R	0.979
Shapiro Wilk Test Statistic	0.955
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.327
Lilliefors Test Statistic	0.154
Lilliefors Critical (0.05) Value	0.17
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.981
A-D Test Statistic	0.499
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.147
K-S Critical(0.05) Value	0.171
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.982
Shapiro Wilk Test Statistic	0.96
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.418
Lilliefors Test Statistic	0.144
Lilliefors Critical (0.05) Value	0.17
Data appear Lognormal at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Calcium (mw-63)	
Raw Statistics	
Number of Valid Observations	26
Number of Missing Observations	1
Number of Distinct Observations	12
Minimum	400
Maximum	580
Mean of Raw Data	516.5
Standard Deviation of Raw Data	42.8
Khat	139.7
Theta hat	3.698
Kstar	123.6
Theta star	4.18
Mean of Log Transformed Data	6.244
Standard Deviation of Log Transformed Data	0.0882
Normal GOF Test Results	
Correlation Coefficient R	0.929
Shapiro Wilk Test Statistic	0.867
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.00265
Lilliefors Test Statistic	0.196
Lilliefors Critical (0.05) Value	0.17
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.918
A-D Test Statistic	1.477
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.208
K-S Critical(0.05) Value	0.171
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.911
Shapiro Wilk Test Statistic	0.836
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	5.3857E-4
Lilliefors Test Statistic	0.217
Lilliefors Critical (0.05) Value	0.17
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Calcium (mw-64)	
Raw Statistics	
Number of Valid Observations	25
Number of Distinct Observations	12
Minimum	72
Maximum	93
Mean of Raw Data	85.72
Standard Deviation of Raw Data	5.224
Khat	264.2
Theta hat	0.324
Kstar	232.5
Theta star	0.369
Mean of Log Transformed Data	4.449
Standard Deviation of Log Transformed Data	0.0638
Normal GOF Test Results	
Correlation Coefficient R	0.918
Shapiro Wilk Test Statistic	0.845
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.0011
Lilliefors Test Statistic	0.205
Lilliefors Critical (0.05) Value	0.173
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.91
A-D Test Statistic	1.535
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.214
K-S Critical(0.05) Value	0.174

Data not Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.905
Shapiro Wilk Test Statistic	0.823
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	3.7662E-4
Lilliefors Test Statistic	0.219
Lilliefors Critical (0.05) Value	0.173

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

Calcium (mw-65)

Raw Statistics

Number of Valid Observations	25
Number of Missing Observations	2
Number of Distinct Observations	13
Minimum	82
Maximum	170
Mean of Raw Data	107.7
Standard Deviation of Raw Data	20.9
Khat	32.62
Theta hat	3.301
Kstar	28.73
Theta star	3.748
Mean of Log Transformed Data	4.664
Standard Deviation of Log Transformed Data	0.173

Appendix B
Goodness of Fit Statistics

Normal GOF Test Results	
Correlation Coefficient R	0.881
Shapiro Wilk Test Statistic	0.785
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	6.6518E-5
Lilliefors Test Statistic	0.296
Lilliefors Critical (0.05) Value	0.173
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.909
A-D Test Statistic	1.555
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.268
K-S Critical(0.05) Value	0.174
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.922
Shapiro Wilk Test Statistic	0.857
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.0019
Lilliefors Test Statistic	0.256
Lilliefors Critical (0.05) Value	0.173
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Chloride (mw-62)	
Raw Statistics	
Number of Valid Observations	23
Number of Missing Observations	5
Number of Distinct Observations	8

Appendix B
Goodness of Fit Statistics

Minimum	82
Maximum	180
Mean of Raw Data	123.5
Standard Deviation of Raw Data	19.54
Khat	43.18
Theta hat	2.861
Kstar	37.57
Theta star	3.287
Mean of Log Transformed Data	4.805
Standard Deviation of Log Transformed Data	0.156
Normal GOF Test Results	
Correlation Coefficient R	0.946
Shapiro Wilk Test Statistic	0.916
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	0.0519
Lilliefors Test Statistic	0.196
Lilliefors Critical (0.05) Value	0.18
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.957
A-D Test Statistic	0.73
A-D Critical (0.05) Value	0.741
K-S Test Statistic	0.175
K-S Critical(0.05) Value	0.181
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.956
Shapiro Wilk Test Statistic	0.935
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	0.141
Lilliefors Test Statistic	0.169
Lilliefors Critical (0.05) Value	0.18
Data appear Lognormal at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Chloride (mw-63)	
Raw Statistics	
Number of Valid Observations	23
Number of Missing Observations	4
Number of Distinct Observations	12
Minimum	77
Maximum	110
Mean of Raw Data	93.91
Standard Deviation of Raw Data	8.749
Khat	117.5
Theta hat	0.799
Kstar	102.2
Theta star	0.919
Mean of Log Transformed Data	4.538
Standard Deviation of Log Transformed Data	0.0951
Normal GOF Test Results	
Correlation Coefficient R	0.973
Shapiro Wilk Test Statistic	0.942
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	0.198
Lilliefors Test Statistic	0.16
Lilliefors Critical (0.05) Value	0.18
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.969
A-D Test Statistic	0.606
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.171
K-S Critical(0.05) Value	0.181
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.968
Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	0.123
Lilliefors Test Statistic	0.172
Lilliefors Critical (0.05) Value	0.18

Data appear Lognormal at (0.05) Significance Level

Chloride (mw-64)

Raw Statistics	
Number of Valid Observations	23
Number of Missing Observations	2
Number of Distinct Observations	8
Minimum	44
Maximum	53
Mean of Raw Data	50.83
Standard Deviation of Raw Data	2.329
Khat	474.6
Theta hat	0.107
Kstar	412.8
Theta star	0.123
Mean of Log Transformed Data	3.927
Standard Deviation of Log Transformed Data	0.0475

Normal GOF Test Results	
Correlation Coefficient R	0.905
Shapiro Wilk Test Statistic	0.821
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	5.5241E-4
Lilliefors Test Statistic	0.225
Lilliefors Critical (0.05) Value	0.18

Data not Normal at (0.05) Significance Level

Gamma GOF Test Results	
Correlation Coefficient R	0.897
A-D Test Statistic	1.481

Appendix B
Goodness of Fit Statistics

A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.231
K-S Critical(0.05) Value	0.181
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.895
Shapiro Wilk Test Statistic	0.805
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	2.8104E-4
Lilliefors Test Statistic	0.233
Lilliefors Critical (0.05) Value	0.18
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Chloride (mw-65)	
Raw Statistics	
Number of Valid Observations	23
Number of Missing Observations	4
Number of Distinct Observations	11
Minimum	48
Maximum	77
Mean of Raw Data	55.7
Standard Deviation of Raw Data	7.009
Khat	75.42
Theta hat	0.738
Kstar	65.61
Theta star	0.849
Mean of Log Transformed Data	4.013
Standard Deviation of Log Transformed Data	0.114
Normal GOF Test Results	
Correlation Coefficient R	0.835

Appendix B
Goodness of Fit Statistics

Shapiro Wilk Test Statistic	0.708
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	5.9469E-6
Lilliefors Test Statistic	0.322
Lilliefors Critical (0.05) Value	0.18
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.859
A-D Test Statistic	2.642
A-D Critical (0.05) Value	0.741
K-S Test Statistic	0.311
K-S Critical(0.05) Value	0.181
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.858
Shapiro Wilk Test Statistic	0.747
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	2.5658E-5
Lilliefors Test Statistic	0.303
Lilliefors Critical (0.05) Value	0.18
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (mw-62)	
Raw Statistics	
Number of Valid Observations	26
Number of Missing Observations	2
Number of Distinct Observations	6
Minimum	1.2
Maximum	3.3
Mean of Raw Data	1.538

Appendix B
Goodness of Fit Statistics

Standard Deviation of Raw Data	0.392
Khat	23.65
Theta hat	0.065
Kstar	20.95
Theta star	0.0734
Mean of Log Transformed Data	0.409
Standard Deviation of Log Transformed Data	0.193
Normal GOF Test Results	
Correlation Coefficient R	0.726
Shapiro Wilk Test Statistic	0.56
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	9.6539E-9
Lilliefors Test Statistic	0.322
Lilliefors Critical (0.05) Value	0.17
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.768
A-D Test Statistic	2.524
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.282
K-S Critical(0.05) Value	0.171
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.827
Shapiro Wilk Test Statistic	0.712
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	2.3427E-6
Lilliefors Test Statistic	0.262
Lilliefors Critical (0.05) Value	0.17
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	

Appendix B
Goodness of Fit Statistics

Data do not follow a discernible distribution at (0.05) Level of Significance

Fluoride (mw-63)

Raw Statistics	
Number of Valid Observations	25
Number of Missing Observations	2
Number of Distinct Observations	10
Minimum	0.28
Maximum	2.5
Mean of Raw Data	1.883
Standard Deviation of Raw Data	0.4
Khat	10.42
Theta hat	0.181
Kstar	9.194
Theta star	0.205
Mean of Log Transformed Data	0.584
Standard Deviation of Log Transformed Data	0.403

Normal GOF Test Results	
Correlation Coefficient R	0.837
Shapiro Wilk Test Statistic	0.735
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	8.2980E-6
Lilliefors Test Statistic	0.218
Lilliefors Critical (0.05) Value	0.173

Data not Normal at (0.05) Significance Level

Gamma GOF Test Results	
Correlation Coefficient R	0.797
A-D Test Statistic	3.615
A-D Critical (0.05) Value	0.745
K-S Test Statistic	0.302
K-S Critical(0.05) Value	0.174

Data not Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.65
Shapiro Wilk Test Statistic	0.458
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	7.446E-10
Lilliefors Test Statistic	0.348
Lilliefors Critical (0.05) Value	0.173

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

Fluoride (mw-64)

Raw Statistics

Number of Valid Observations	25
Number of Distinct Observations	4
Minimum	1.3
Maximum	1.6
Mean of Raw Data	1.432
Standard Deviation of Raw Data	0.0748
Khat	380.7
Theta hat	0.00376
Kstar	335
Theta star	0.00427
Mean of Log Transformed Data	0.358
Standard Deviation of Log Transformed Data	0.0524

Normal GOF Test Results

Correlation Coefficient R	0.922
Shapiro Wilk Test Statistic	0.852
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.00155
Lilliefors Test Statistic	0.266
Lilliefors Critical (0.05) Value	0.173

Data not Normal at (0.05) Significance Level

Appendix B
Goodness of Fit Statistics

Gamma GOF Test Results	
Correlation Coefficient R	0.923
A-D Test Statistic	1.924
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.264
K-S Critical(0.05) Value	0.174
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.922
Shapiro Wilk Test Statistic	0.851
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.00146
Lilliefors Test Statistic	0.258
Lilliefors Critical (0.05) Value	0.173
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (mw-65)	
Raw Statistics	
Number of Valid Observations	25
Number of Missing Observations	2
Number of Distinct Observations	7
Minimum	1.5
Maximum	2.1
Mean of Raw Data	1.868
Standard Deviation of Raw Data	0.152
Khat	150.7
Theta hat	0.0124
Kstar	132.6
Theta star	0.0141
Mean of Log Transformed Data	0.622
Standard Deviation of Log Transformed Data	0.0842

Appendix B
Goodness of Fit Statistics

Normal GOF Test Results	
Correlation Coefficient R	0.95
Shapiro Wilk Test Statistic	0.9
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.0188
Lilliefors Test Statistic	0.207
Lilliefors Critical (0.05) Value	0.173
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.941
A-D Test Statistic	1.139
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.209
K-S Critical(0.05) Value	0.174
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.943
Shapiro Wilk Test Statistic	0.889
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.0101
Lilliefors Test Statistic	0.203
Lilliefors Critical (0.05) Value	0.173
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Sulfate (mw-62)	
Raw Statistics	
Number of Valid Observations	23
Number of Missing Observations	5

Appendix B
Goodness of Fit Statistics

Number of Distinct Observations	8
Minimum	2800
Maximum	4000
Mean of Raw Data	3391
Standard Deviation of Raw Data	229.5
Khat	229.4
Theta hat	14.78
Kstar	199.5
Theta star	17
Mean of Log Transformed Data	8.127
Standard Deviation of Log Transformed Data	0.0676
Normal GOF Test Results	
Correlation Coefficient R	0.926
Shapiro Wilk Test Statistic	0.884
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	0.0106
Lilliefors Test Statistic	0.215
Lilliefors Critical (0.05) Value	0.18
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.933
A-D Test Statistic	1.177
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.218
K-S Critical(0.05) Value	0.181
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.925
Shapiro Wilk Test Statistic	0.883
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	0.0101
Lilliefors Test Statistic	0.225
Lilliefors Critical (0.05) Value	0.18

Appendix B
Goodness of Fit Statistics

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

Sulfate (mw-63)

Raw Statistics	
Number of Valid Observations	23
Number of Missing Observations	4
Number of Distinct Observations	10
Minimum	1900
Maximum	4300
Mean of Raw Data	2704
Standard Deviation of Raw Data	429
Khat	46.83
Theta hat	57.75
Kstar	40.75
Theta star	66.36
Mean of Log Transformed Data	7.892
Standard Deviation of Log Transformed Data	0.147

Normal GOF Test Results	
Correlation Coefficient R	0.841
Shapiro Wilk Test Statistic	0.742
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	2.1466E-5
Lilliefors Test Statistic	0.281
Lilliefors Critical (0.05) Value	0.18

Data not Normal at (0.05) Significance Level

Gamma GOF Test Results	
Correlation Coefficient R	0.855
A-D Test Statistic	1.716
A-D Critical (0.05) Value	0.741
K-S Test Statistic	0.254

Appendix B
Goodness of Fit Statistics

K-S Critical(0.05) Value	0.181
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.885
Shapiro Wilk Test Statistic	0.816
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	4.4979E-4
Lilliefors Test Statistic	0.248
Lilliefors Critical (0.05) Value	0.18
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Sulfate (mw-64)	
Raw Statistics	
Number of Valid Observations	23
Number of Missing Observations	2
Number of Distinct Observations	11
Minimum	270
Maximum	870
Mean of Raw Data	363.5
Standard Deviation of Raw Data	115.3
Khat	17.15
Theta hat	21.19
Kstar	14.95
Theta star	24.32
Mean of Log Transformed Data	5.866
Standard Deviation of Log Transformed Data	0.221
Normal GOF Test Results	
Correlation Coefficient R	0.671
Shapiro Wilk Test Statistic	0.484
Shapiro Wilk Critical (0.05) Value	0.914

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Goodness of Fit Statistics

Approximate Shapiro Wilk P Value	4.5797E-9
Lilliefors Test Statistic	0.366
Lilliefors Critical (0.05) Value	0.18
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.722
A-D Test Statistic	2.808
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.31
K-S Critical(0.05) Value	0.181
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.788
Shapiro Wilk Test Statistic	0.654
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	8.6279E-7
Lilliefors Test Statistic	0.282
Lilliefors Critical (0.05) Value	0.18
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Sulfate (mw-65)	
Raw Statistics	
Number of Valid Observations	23
Number of Missing Observations	4
Number of Distinct Observations	16
Minimum	350
Maximum	790
Mean of Raw Data	483.9
Standard Deviation of Raw Data	112.3
Khat	23.35

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Goodness of Fit Statistics

Theta hat	20.73
Kstar	20.33
Theta star	23.8
Mean of Log Transformed Data	6.16
Standard Deviation of Log Transformed Data	0.204
Normal GOF Test Results	
Correlation Coefficient R	0.871
Shapiro Wilk Test Statistic	0.764
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	5.0785E-5
Lilliefors Test Statistic	0.313
Lilliefors Critical (0.05) Value	0.18
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.902
A-D Test Statistic	1.663
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.279
K-S Critical(0.05) Value	0.181
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.917
Shapiro Wilk Test Statistic	0.845
Shapiro Wilk Critical (0.05) Value	0.914
Approximate Shapiro Wilk P Value	0.0016
Lilliefors Test Statistic	0.264
Lilliefors Critical (0.05) Value	0.18
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	

Appendix B
Goodness of Fit Statistics

DissolvedSolids (mw-62)	
Raw Statistics	
Number of Valid Observations	25
Number of Missing Observations	3
Number of Distinct Observations	13
Minimum	2400
Maximum	6700
Mean of Raw Data	5572
Standard Deviation of Raw Data	789.3
Khat	36.07
Theta hat	154.5
Kstar	31.77
Theta star	175.4
Mean of Log Transformed Data	8.612
Standard Deviation of Log Transformed Data	0.188
Normal GOF Test Results	
Correlation Coefficient R	0.829
Shapiro Wilk Test Statistic	0.719
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	4.3684E-6
Lilliefors Test Statistic	0.254
Lilliefors Critical (0.05) Value	0.173
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.809
A-D Test Statistic	2.866
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.288
K-S Critical(0.05) Value	0.174
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.735

Appendix B
Goodness of Fit Statistics

Shapiro Wilk Test Statistic	0.575
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	2.5798E-8
Lilliefors Test Statistic	0.304
Lilliefors Critical (0.05) Value	0.173
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
DissolvedSolids (mw-63)	
Raw Statistics	
Number of Valid Observations	25
Number of Missing Observations	2
Number of Distinct Observations	9
Minimum	3200
Maximum	4700
Mean of Raw Data	4308
Standard Deviation of Raw Data	317.4
Khat	170.9
Theta hat	25.21
Kstar	150.4
Theta star	28.65
Mean of Log Transformed Data	8.365
Standard Deviation of Log Transformed Data	0.0805
Normal GOF Test Results	
Correlation Coefficient R	0.867
Shapiro Wilk Test Statistic	0.77
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	3.5015E-5
Lilliefors Test Statistic	0.25
Lilliefors Critical (0.05) Value	0.173
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.858
A-D Test Statistic	2.117
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.26
K-S Critical(0.05) Value	0.174

Data not Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.838
Shapiro Wilk Test Statistic	0.723
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	5.1624E-6
Lilliefors Test Statistic	0.27
Lilliefors Critical (0.05) Value	0.173

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

DissolvedSolids (mw-64)

Raw Statistics

Number of Valid Observations	25
Number of Distinct Observations	10
Minimum	660
Maximum	890
Mean of Raw Data	778.4
Standard Deviation of Raw Data	44.88
Khat	302.9
Theta hat	2.57
Kstar	266.6
Theta star	2.92
Mean of Log Transformed Data	6.656
Standard Deviation of Log Transformed Data	0.0592

Normal GOF Test Results

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.893
Shapiro Wilk Test Statistic	0.821
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	3.5004E-4
Lilliefors Test Statistic	0.274
Lilliefors Critical (0.05) Value	0.173

Data not Normal at (0.05) Significance Level

Gamma GOF Test Results

Correlation Coefficient R	0.892
A-D Test Statistic	2.26
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.282
K-S Critical(0.05) Value	0.174

Data not Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.887
Shapiro Wilk Test Statistic	0.809
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	1.9802E-4
Lilliefors Test Statistic	0.285
Lilliefors Critical (0.05) Value	0.173

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

DissolvedSolids (mw-65)

Raw Statistics

Number of Valid Observations	25
Number of Missing Observations	2
Number of Distinct Observations	13
Minimum	540

Appendix B
Goodness of Fit Statistics

Maximum	1500
Mean of Raw Data	1018
Standard Deviation of Raw Data	186.3
Khat	30.11
Theta hat	33.81
Kstar	26.52
Theta star	38.38
Mean of Log Transformed Data	6.909
Standard Deviation of Log Transformed Data	0.19
Normal GOF Test Results	
Correlation Coefficient R	0.919
Shapiro Wilk Test Statistic	0.869
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.00346
Lilliefors Test Statistic	0.258
Lilliefors Critical (0.05) Value	0.173
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.928
A-D Test Statistic	1.558
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.235
K-S Critical(0.05) Value	0.174
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.906
Shapiro Wilk Test Statistic	0.848
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.00127
Lilliefors Test Statistic	0.222
Lilliefors Critical (0.05) Value	0.173
Data not Lognormal at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Field_pH (mw-62)	
Raw Statistics	
Number of Valid Observations	27
Number of Missing Observations	1
Number of Distinct Observations	22
Minimum	6.36
Maximum	7.4
Mean of Raw Data	6.62
Standard Deviation of Raw Data	0.214
Khat	1031
Theta hat	0.00642
Kstar	916.8
Theta star	0.00722
Mean of Log Transformed Data	1.89
Standard Deviation of Log Transformed Data	0.0315
Normal GOF Test Results	
Correlation Coefficient R	0.91
Shapiro Wilk Test Statistic	0.845
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	7.0188E-4
Lilliefors Test Statistic	0.155
Lilliefors Critical (0.05) Value	0.167
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.917
A-D Test Statistic	0.82
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.145
K-S Critical(0.05) Value	0.168
Data follow Appr. Gamma Distribution at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Lognormal GOF Test Results	
Correlation Coefficient R	0.921
Shapiro Wilk Test Statistic	0.863
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.0018
Lilliefors Test Statistic	0.146
Lilliefors Critical (0.05) Value	0.167
Data appear Approximate_Lognormal at (0.05) Significance Level	
Field_pH (mw-63)	
Raw Statistics	
Number of Valid Observations	27
Number of Distinct Observations	24
Minimum	6.53
Maximum	7.21
Mean of Raw Data	6.779
Standard Deviation of Raw Data	0.161
Khat	1848
Theta hat	0.00367
Kstar	1643
Theta star	0.00413
Mean of Log Transformed Data	1.914
Standard Deviation of Log Transformed Data	0.0237
Normal GOF Test Results	
Correlation Coefficient R	0.979
Shapiro Wilk Test Statistic	0.958
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.364
Lilliefors Test Statistic	0.0975
Lilliefors Critical (0.05) Value	0.167
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.981
A-D Test Statistic	0.281
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.0911
K-S Critical(0.05) Value	0.168
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.981
Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.451
Lilliefors Test Statistic	0.0942
Lilliefors Critical (0.05) Value	0.167
Data appear Lognormal at (0.05) Significance Level	
Field_pH (mw-64)	
Raw Statistics	
Number of Valid Observations	25
Number of Distinct Observations	20
Minimum	7.22
Maximum	7.68
Mean of Raw Data	7.445
Standard Deviation of Raw Data	0.124
Khat	3764
Theta hat	0.00198
Kstar	3312
Theta star	0.00225
Mean of Log Transformed Data	2.007
Standard Deviation of Log Transformed Data	0.0166
Normal GOF Test Results	
Correlation Coefficient R	0.989
Shapiro Wilk Test Statistic	0.97
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.653

Appendix B
Goodness of Fit Statistics

Lilliefors Test Statistic	0.102
Lilliefors Critical (0.05) Value	0.173
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.988
A-D Test Statistic	0.323
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.111
K-S Critical(0.05) Value	0.174
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.989
Shapiro Wilk Test Statistic	0.969
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.649
Lilliefors Test Statistic	0.103
Lilliefors Critical (0.05) Value	0.173
Data appear Lognormal at (0.05) Significance Level	
Field_pH (mw-65)	
Raw Statistics	
Number of Valid Observations	27
Number of Distinct Observations	22
Minimum	6.96
Maximum	8.27
Mean of Raw Data	7.254
Standard Deviation of Raw Data	0.244
Khat	969.6
Theta hat	0.00748
Kstar	861.9
Theta star	0.00842
Mean of Log Transformed Data	1.981
Standard Deviation of Log Transformed Data	0.0323

Appendix B
Goodness of Fit Statistics

Normal GOF Test Results	
Correlation Coefficient R	0.834
Shapiro Wilk Test Statistic	0.725
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	2.7136E-6
Lilliefors Test Statistic	0.189
Lilliefors Critical (0.05) Value	0.167
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.844
A-D Test Statistic	1.739
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.186
K-S Critical(0.05) Value	0.168
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.85
Shapiro Wilk Test Statistic	0.751
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	8.0962E-6
Lilliefors Test Statistic	0.184
Lilliefors Critical (0.05) Value	0.167
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	

	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	Intrawell BackgroundMW71_MW72_MW73
Date/Time of Computation	ProUCL 5.13/11/2022 9:28:59 AM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95

Appendix B
Goodness of Fit Statistics

Chloride (mw71_72_73)

Raw Statistics	
Number of Valid Observations	66
Number of Missing Observations	6
Number of Distinct Observations	27
Minimum	290
Maximum	750
Mean of Raw Data	502
Standard Deviation of Raw Data	85.47
Khat	34
Theta hat	14.77
Kstar	32.46
Theta star	15.46
Mean of Log Transformed Data	6.204
Standard Deviation of Log Transformed Data	0.176
Normal GOF Test Results	
Correlation Coefficient R	0.987
Approximate Shapiro Wilk Test Statistic	0.977
Approximate Shapiro Wilk P Value	0.525
Lilliefors Test Statistic	0.113
Lilliefors Critical (0.05) Value	0.109

Data appear Approximate Normal at (0.05) Significance Level

Gamma GOF Test Results	
Correlation Coefficient R	0.987
A-D Test Statistic	0.733
A-D Critical (0.05) Value	0.749
K-S Test Statistic	0.0958
K-S Critical(0.05) Value	0.109

Data appear Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.98
Approximate Shapiro Wilk Test Statistic	0.965
Approximate Shapiro Wilk P Value	0.158
Lilliefors Test Statistic	0.0983
Lilliefors Critical (0.05) Value	0.109
Data appear Lognormal at (0.05) Significance Level	
Sulfate (mw71_72_73)	
Raw Statistics	
Number of Valid Observations	66
Number of Missing Observations	6
Number of Distinct Observations	30
Minimum	610
Maximum	14000
Mean of Raw Data	9190
Standard Deviation of Raw Data	2577
Khat	7.919
Theta hat	1160
Kstar	7.569
Theta star	1214
Mean of Log Transformed Data	9.061
Standard Deviation of Log Transformed Data	0.44
Normal GOF Test Results	
Correlation Coefficient R	0.96
Approximate Shapiro Wilk Test Statistic	0.925
Approximate Shapiro Wilk P Value	5.4269E-4
Lilliefors Test Statistic	0.199
Lilliefors Critical (0.05) Value	0.109
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.916
A-D Test Statistic	3.532
A-D Critical (0.05) Value	0.752
K-S Test Statistic	0.22

Appendix B
Goodness of Fit Statistics

K-S Critical(0.05) Value	0.11
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.809
Approximate Shapiro Wilk Test Statistic	0.694
Approximate Shapiro Wilk P Value	0
Lilliefors Test Statistic	0.215
Lilliefors Critical (0.05) Value	0.109
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
DissolvedSolids (mw71_72_73)	
Raw Statistics	
Number of Valid Observations	69
Number of Missing Observations	3
Number of Distinct Observations	20
Minimum	6100
Maximum	21000
Mean of Raw Data	14338
Standard Deviation of Raw Data	3156
Khat	17.65
Theta hat	812.3
Kstar	16.89
Theta star	848.8
Mean of Log Transformed Data	9.542
Standard Deviation of Log Transformed Data	0.254
Normal GOF Test Results	
Correlation Coefficient R	0.962
Approximate Shapiro Wilk Test Statistic	0.92
Approximate Shapiro Wilk P Value	1.7572E-4
Lilliefors Test Statistic	0.221

Appendix B
Goodness of Fit Statistics

Lilliefors Critical (0.05) Value	0.107
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.938
A-D Test Statistic	3.202
A-D Critical (0.05) Value	0.75
K-S Test Statistic	0.244
K-S Critical(0.05) Value	0.107
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.931
Approximate Shapiro Wilk Test Statistic	0.866
Approximate Shapiro Wilk P Value	2.8924E-8
Lilliefors Test Statistic	0.252
Lilliefors Critical (0.05) Value	0.107
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Field_pH (mw71_72_73)	
Raw Statistics	
Number of Valid Observations	72
Number of Distinct Observations	43
Minimum	6.17
Maximum	7.73
Mean of Raw Data	6.717
Standard Deviation of Raw Data	0.231
Khat	894.8
Theta hat	0.00751
Kstar	857.6
Theta star	0.00783
Mean of Log Transformed Data	1.904

Appendix B
Goodness of Fit Statistics

Standard Deviation of Log Transformed Data	0.0334
Normal GOF Test Results	
Correlation Coefficient R	0.887
Approximate Shapiro Wilk Test Statistic	0.817
Approximate Shapiro Wilk P Value	3.049E-12
Lilliefors Test Statistic	0.143
Lilliefors Critical (0.05) Value	0.104
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.893
A-D Test Statistic	2.918
A-D Critical (0.05) Value	0.749
K-S Test Statistic	0.135
K-S Critical(0.05) Value	0.105
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.901
Approximate Shapiro Wilk Test Statistic	0.84
Approximate Shapiro Wilk P Value	1.533E-10
Lilliefors Test Statistic	0.134
Lilliefors Critical (0.05) Value	0.104
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	

	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	Interwell Background - Outliers removed -MW71_MW72_MW73
Date/Time of Computation	ProUCL 5.13/14/2022 7:36:35 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95

Appendix B
Goodness of Fit Statistics

Sulfate (mw71_72_73)

Raw Statistics	
Number of Valid Observations	65
Number of Missing Observations	7
Number of Distinct Observations	29
Minimum	3900
Maximum	14000
Mean of Raw Data	9322
Standard Deviation of Raw Data	2362
Khat	13.33
Theta hat	699.5
Kstar	12.72
Theta star	732.8
Mean of Log Transformed Data	9.102
Standard Deviation of Log Transformed Data	0.293
Normal GOF Test Results	
Correlation Coefficient R	0.967
Approximate Shapiro Wilk Test Statistic	0.923
Approximate Shapiro Wilk P Value	4.7323E-4
Lilliefors Test Statistic	0.197
Lilliefors Critical (0.05) Value	0.11
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.943
A-D Test Statistic	2.789
A-D Critical (0.05) Value	0.75
K-S Test Statistic	0.223
K-S Critical(0.05) Value	0.11
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.938
Approximate Shapiro Wilk Test Statistic	0.872
Approximate Shapiro Wilk P Value	2.3593E-7
Lilliefors Test Statistic	0.231
Lilliefors Critical (0.05) Value	0.11

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

Field_pH (mw71_72_73)

Raw Statistics	
Number of Valid Observations	68
Number of Missing Observations	4
Number of Distinct Observations	39
Minimum	6.45
Maximum	7.04
Mean of Raw Data	6.704
Standard Deviation of Raw Data	0.132
Khat	2632
Theta hat	0.00255
Kstar	2516
Theta star	0.00266
Mean of Log Transformed Data	1.902
Standard Deviation of Log Transformed Data	0.0196

Normal GOF Test Results

Correlation Coefficient R	0.993
Approximate Shapiro Wilk Test Statistic	0.974
Approximate Shapiro Wilk P Value	0.376
Lilliefors Test Statistic	0.0713
Lilliefors Critical (0.05) Value	0.107

Data appear Normal at (0.05) Significance Level

Gamma GOF Test Results

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.993
A-D Test Statistic	0.443
A-D Critical (0.05) Value	0.749
K-S Test Statistic	0.0914
K-S Critical(0.05) Value	0.108

Data appear Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.993
Approximate Shapiro Wilk Test Statistic	0.975
Approximate Shapiro Wilk P Value	0.411
Lilliefors Test Statistic	0.068
Lilliefors Critical (0.05) Value	0.107

Data appear Lognormal at (0.05) Significance Level

Goodness-of-Fit Test Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.13/11/2022 1:23:37 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_b.xls
Full Precision	OFF
Confidence Coefficient	0.95

Boron (mw71_mw72)

Raw Statistics	
Number of Valid Observations	50
Number of Missing Observations	2
Number of Distinct Observations	22
Minimum	0.16
Maximum	0.73
Mean of Raw Data	0.398
Standard Deviation of Raw Data	0.181
Khat	4.692
Theta hat	0.0849
Kstar	4.424
Theta star	0.09
Mean of Log Transformed Data	-1.031

Appendix B
Goodness of Fit Statistics

Standard Deviation of Log Transformed Data	0.482
Normal GOF Test Results	
Correlation Coefficient R	0.91
Shapiro Wilk Test Statistic	0.806
Shapiro Wilk Critical (0.05) Value	0.947
Approximate Shapiro Wilk P Value	1.8808E-8
Lilliefors Test Statistic	0.277
Lilliefors Critical (0.05) Value	0.125
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.907
A-D Test Statistic	4.552
A-D Critical (0.05) Value	0.754
K-S Test Statistic	0.261
K-S Critical(0.05) Value	0.126
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.909
Shapiro Wilk Test Statistic	0.804
Shapiro Wilk Critical (0.05) Value	0.947
Approximate Shapiro Wilk P Value	1.5825E-8
Lilliefors Test Statistic	0.249
Lilliefors Critical (0.05) Value	0.125
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Calcium (mw71_mw72) - Outlier removed	
Raw Statistics	
Number of Valid Observations	49

Appendix B
Goodness of Fit Statistics

Number of Missing Observations	3
Number of Distinct Observations	12
Minimum	400
Maximum	510
Mean of Raw Data	450.4
Standard Deviation of Raw Data	26.53
Khat	291.1
Theta hat	1.548
Kstar	273.2
Theta star	1.648
Mean of Log Transformed Data	6.108
Standard Deviation of Log Transformed Data	0.0594
Normal GOF Test Results	
Correlation Coefficient R	0.985
Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical (0.05) Value	0.947
Approximate Shapiro Wilk P Value	0.147
Lilliefors Test Statistic	0.127
Lilliefors Critical (0.05) Value	0.126
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.984
A-D Test Statistic	0.685
A-D Critical (0.05) Value	0.748
K-S Test Statistic	0.134
K-S Critical(0.05) Value	0.126
Data follow Appr. Gamma Distribution at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.983
Shapiro Wilk Test Statistic	0.953
Shapiro Wilk Critical (0.05) Value	0.947
Approximate Shapiro Wilk P Value	0.0815
Lilliefors Test Statistic	0.138

Appendix B
Goodness of Fit Statistics

Lilliefors Critical (0.05) Value	0.126
Data appear Approximate_Lognormal at (0.05) Significance Level	
	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	Background MW73
Date/Time of Computation	ProUCL 5.13/11/2022 9:35:00 AM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Boron (mw-73)	
Raw Statistics	
Number of Valid Observations	19
Number of Missing Observations	1
Number of Distinct Observations	5
Minimum	1.6
Maximum	2
Mean of Raw Data	1.679
Standard Deviation of Raw Data	0.118
Khat	226.1
Theta hat	0.00743
Kstar	190.4
Theta star	0.00882
Mean of Log Transformed Data	0.516
Standard Deviation of Log Transformed Data	0.0674
Normal GOF Test Results	
Correlation Coefficient R	0.849
Shapiro Wilk Test Statistic	0.722
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	4.1195E-5
Lilliefors Test Statistic	0.327
Lilliefors Critical (0.05) Value	0.197
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.863
A-D Test Statistic	2.201
A-D Critical (0.05) Value	0.738
K-S Test Statistic	0.336
K-S Critical(0.05) Value	0.198
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.856
Shapiro Wilk Test Statistic	0.731
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	5.6596E-5
Lilliefors Test Statistic	0.331
Lilliefors Critical (0.05) Value	0.197
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Calcium (mw-73)	
Raw Statistics	
Number of Valid Observations	19
Number of Missing Observations	1
Number of Distinct Observations	12
Minimum	420
Maximum	550
Mean of Raw Data	486.8
Standard Deviation of Raw Data	34
Khat	216.6
Theta hat	2.248
Kstar	182.4
Theta star	2.669
Mean of Log Transformed Data	6.186
Standard Deviation of Log Transformed Data	0.0699
Normal GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.99
Shapiro Wilk Test Statistic	0.979
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	0.921
Lilliefors Test Statistic	0.106
Lilliefors Critical (0.05) Value	0.197

Data appear Normal at (0.05) Significance Level

Gamma GOF Test Results

Correlation Coefficient R	0.991
A-D Test Statistic	0.204
A-D Critical (0.05) Value	0.738
K-S Test Statistic	0.105
K-S Critical(0.05) Value	0.198

Data appear Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.991
Shapiro Wilk Test Statistic	0.98
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	0.935
Lilliefors Test Statistic	0.0977
Lilliefors Critical (0.05) Value	0.197

Data appear Lognormal at (0.05) Significance Level

	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	Outlier removed - flouride MW63_MW63
Date/Time of Computation	ProUCL 5.13/11/2022 3:14:24 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_c.xls
Full Precision	OFF
Confidence Coefficient	0.95

Fluoride (mw-62)

Raw Statistics

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	25
Number of Missing Observations	3
Number of Distinct Observations	5
Minimum	1.2
Maximum	1.8
Mean of Raw Data	1.468
Standard Deviation of Raw Data	0.16
Khat	86.59
Theta hat	0.017
Kstar	76.23
Theta star	0.0193
Mean of Log Transformed Data	0.378
Standard Deviation of Log Transformed Data	0.11
Normal GOF Test Results	
Correlation Coefficient R	0.951
Shapiro Wilk Test Statistic	0.9
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.0181
Lilliefors Test Statistic	0.181
Lilliefors Critical (0.05) Value	0.173
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.952
A-D Test Statistic	1.11
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.194
K-S Critical(0.05) Value	0.174
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.948
Shapiro Wilk Test Statistic	0.893
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.0121

Appendix B
Goodness of Fit Statistics

Lilliefors Test Statistic	0.198
Lilliefors Critical (0.05) Value	0.173
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (mw-63)	
Raw Statistics	
Number of Valid Observations	24
Number of Missing Observations	3
Number of Distinct Observations	9
Minimum	1.6
Maximum	2.5
Mean of Raw Data	1.95
Standard Deviation of Raw Data	0.225
Khat	80.31
Theta hat	0.0243
Kstar	70.3
Theta star	0.0277
Mean of Log Transformed Data	0.662
Standard Deviation of Log Transformed Data	0.114
Normal GOF Test Results	
Correlation Coefficient R	0.969
Shapiro Wilk Test Statistic	0.938
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	0.15
Lilliefors Test Statistic	0.162
Lilliefors Critical (0.05) Value	0.177
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.974
A-D Test Statistic	0.507

Appendix B
Goodness of Fit Statistics

A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.146
K-S Critical(0.05) Value	0.177
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.975
Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	0.247
Lilliefors Test Statistic	0.141
Lilliefors Critical (0.05) Value	0.177
Data appear Lognormal at (0.05) Significance Level	
Fluoride (mw-64)	
Raw Statistics	
Number of Valid Observations	25
Number of Distinct Observations	4
Minimum	1.3
Maximum	1.6
Mean of Raw Data	1.432
Standard Deviation of Raw Data	0.0748
Khat	380.7
Theta hat	0.00376
Kstar	335
Theta star	0.00427
Mean of Log Transformed Data	0.358
Standard Deviation of Log Transformed Data	0.0524
Normal GOF Test Results	
Correlation Coefficient R	0.922
Shapiro Wilk Test Statistic	0.852
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.00155
Lilliefors Test Statistic	0.266
Lilliefors Critical (0.05) Value	0.173

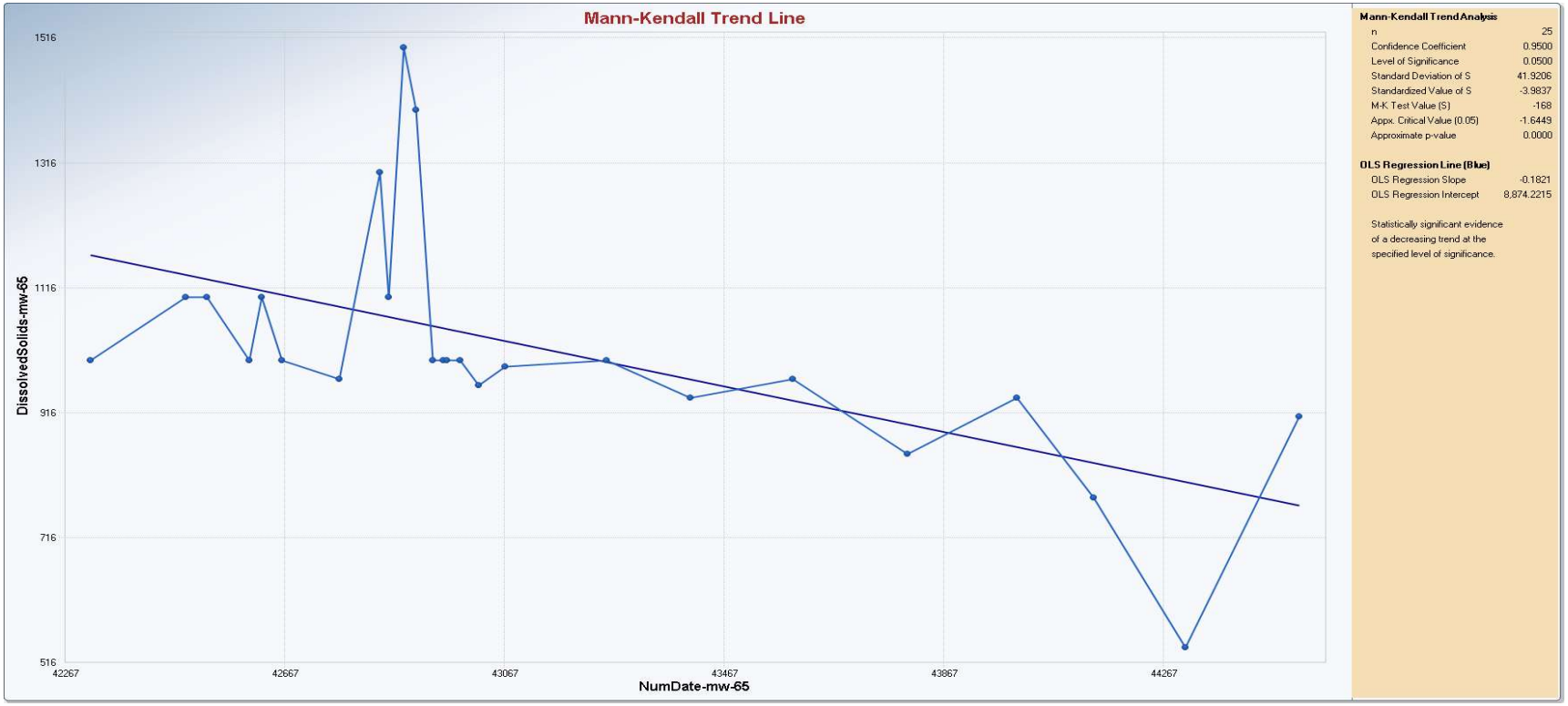
Appendix B
Goodness of Fit Statistics

Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.923
A-D Test Statistic	1.924
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.264
K-S Critical(0.05) Value	0.174
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.922
Shapiro Wilk Test Statistic	0.851
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.00146
Lilliefors Test Statistic	0.258
Lilliefors Critical (0.05) Value	0.173
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (mw-65)	
Raw Statistics	
Number of Valid Observations	25
Number of Missing Observations	2
Number of Distinct Observations	7
Minimum	1.5
Maximum	2.1
Mean of Raw Data	1.868
Standard Deviation of Raw Data	0.152
Khat	150.7
Theta hat	0.0124
Kstar	132.6
Theta star	0.0141

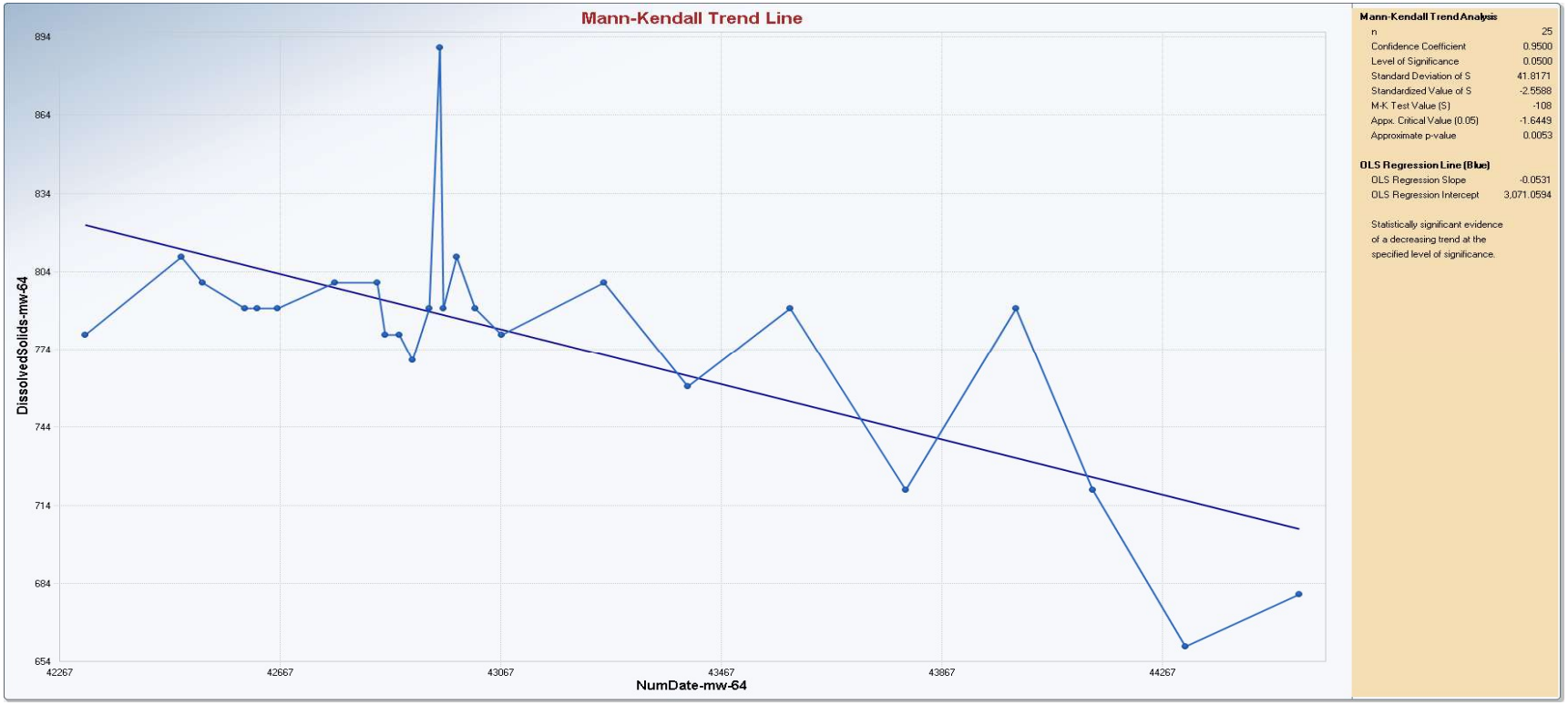
Appendix B
Goodness of Fit Statistics

Mean of Log Transformed Data	0.622
Standard Deviation of Log Transformed Data	0.0842
Normal GOF Test Results	
Correlation Coefficient R	0.95
Shapiro Wilk Test Statistic	0.9
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.0188
Lilliefors Test Statistic	0.207
Lilliefors Critical (0.05) Value	0.173
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.941
A-D Test Statistic	1.139
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.209
K-S Critical(0.05) Value	0.174
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.943
Shapiro Wilk Test Statistic	0.889
Shapiro Wilk Critical (0.05) Value	0.918
Approximate Shapiro Wilk P Value	0.0101
Lilliefors Test Statistic	0.203
Lilliefors Critical (0.05) Value	0.173
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	

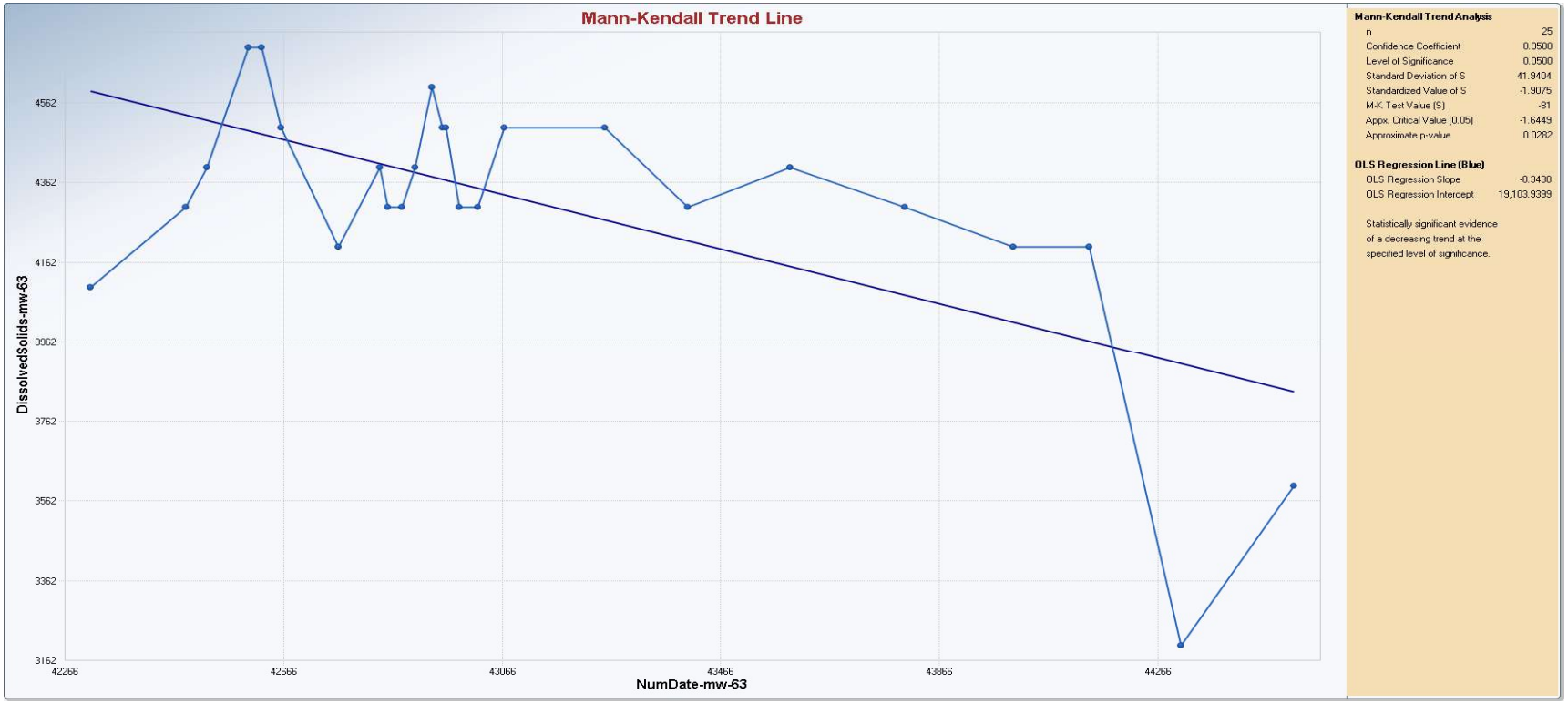
Appendix B
Mann-Kendall Trend Test



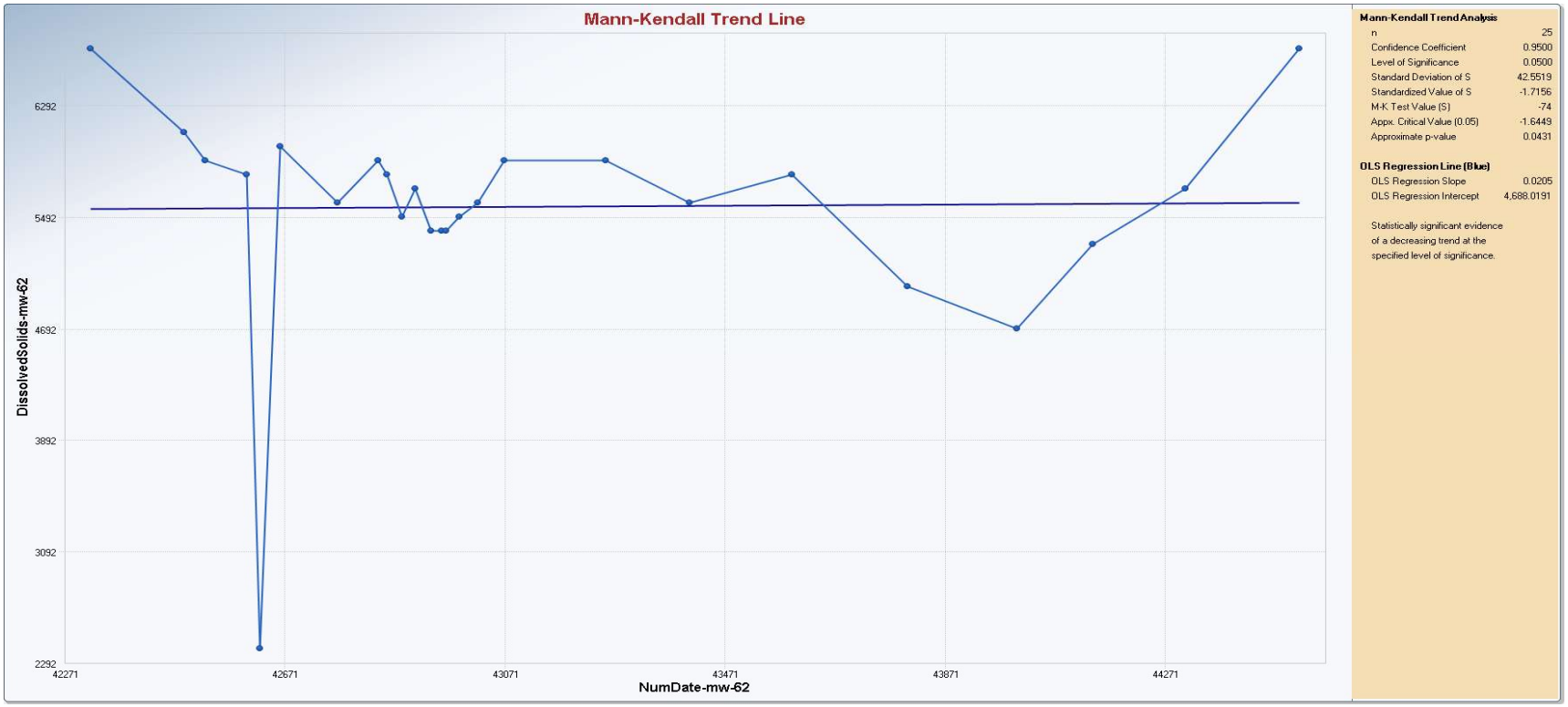
Appendix B
Mann-Kendall Trend Test



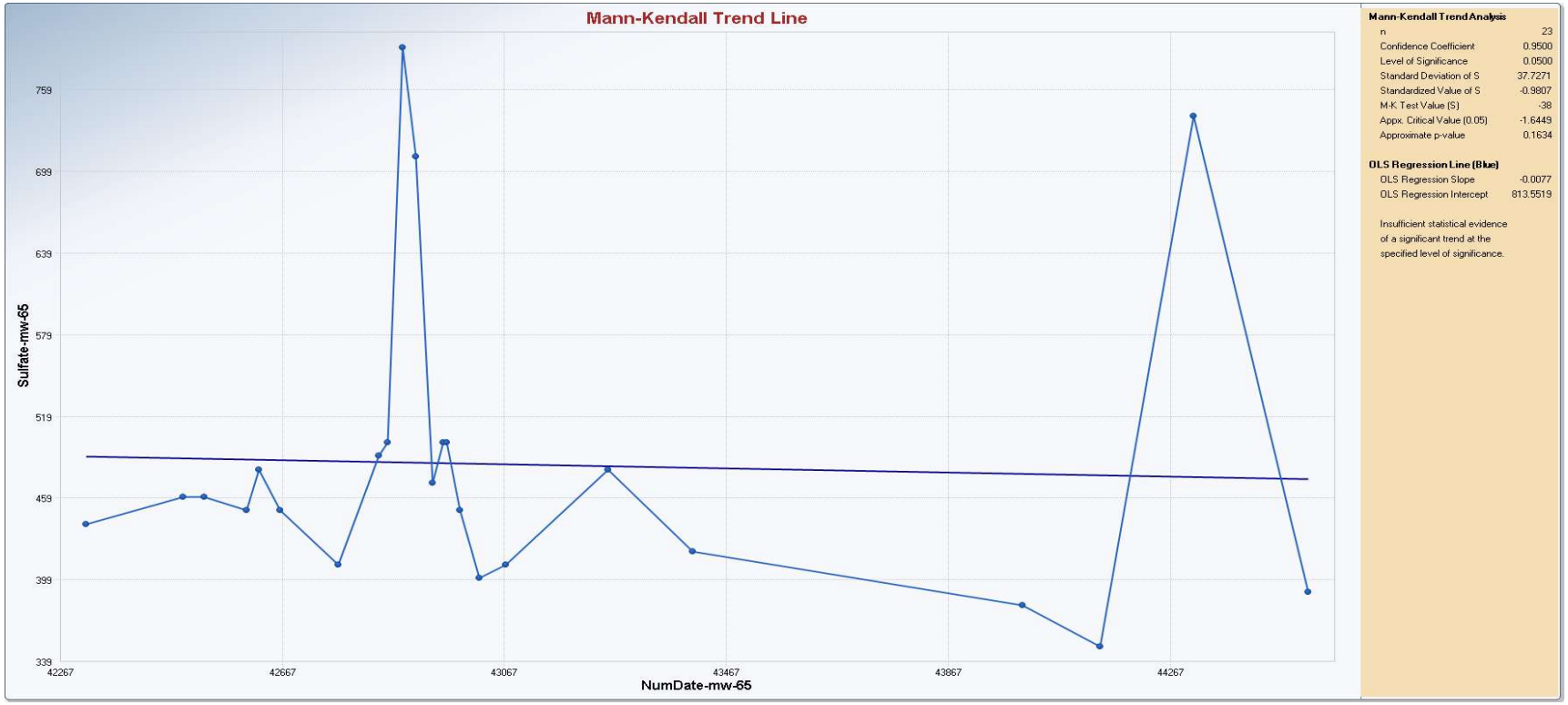
Appendix B
Mann-Kendall Trend Test



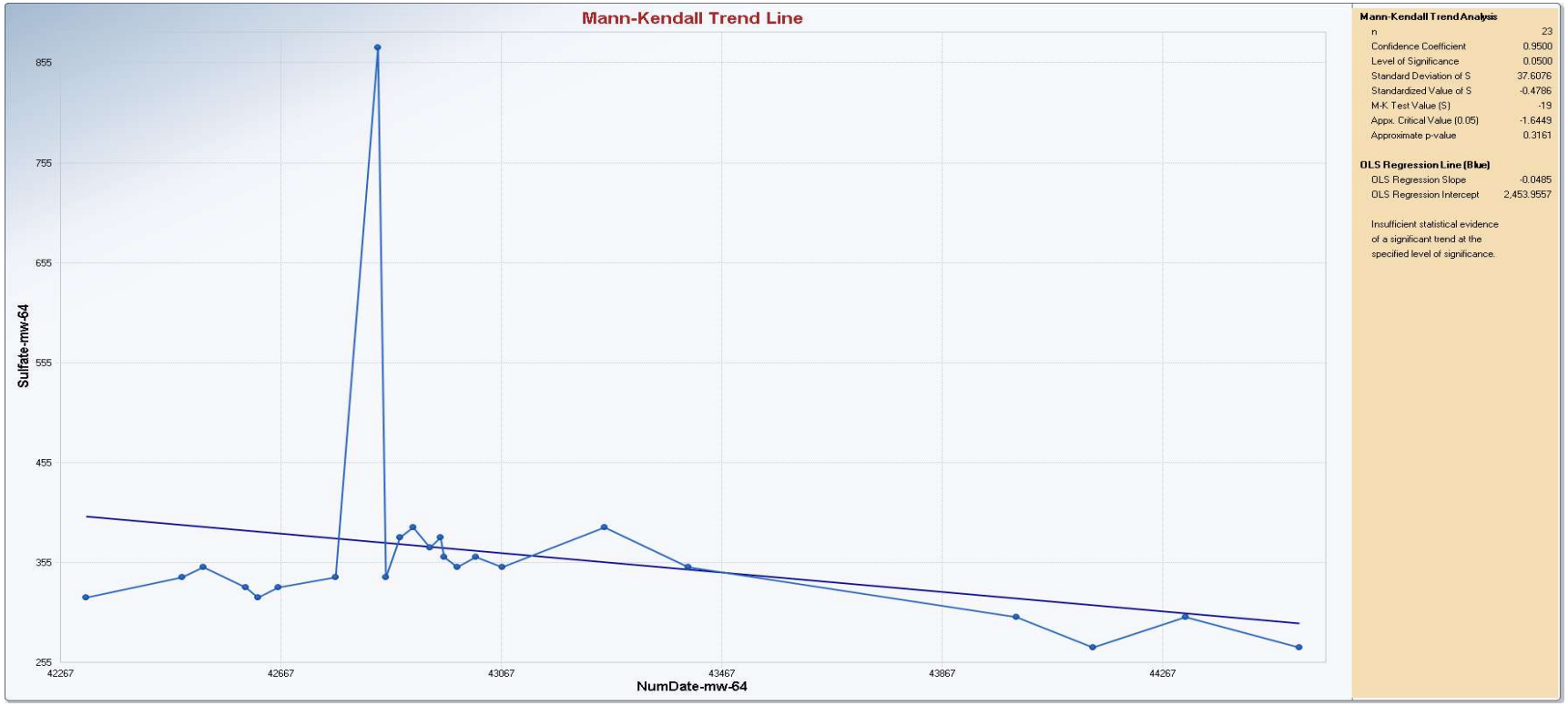
Appendix B
Mann-Kendall Trend Test



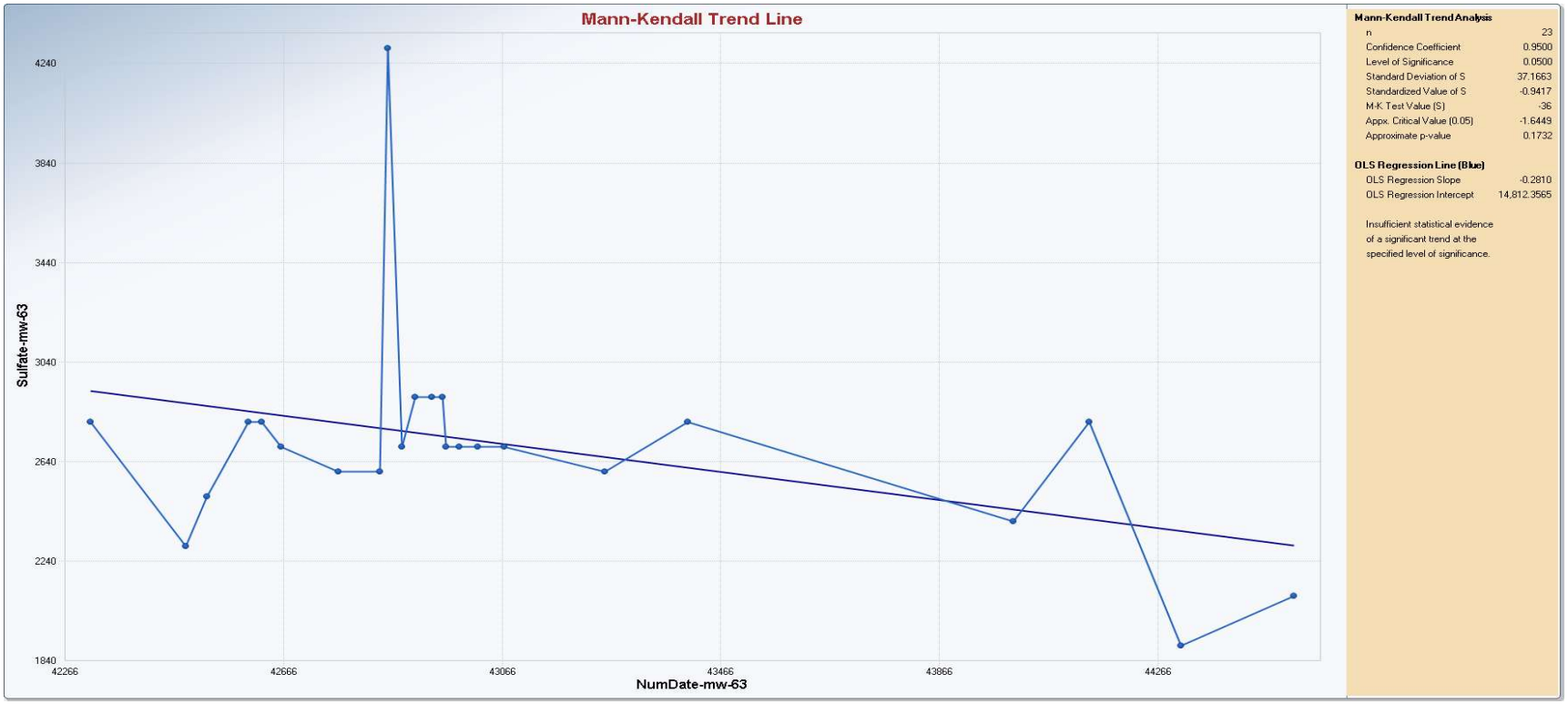
Appendix B
Mann-Kendall Trend Test



Appendix B
Mann-Kendall Trend Test



Appendix B
Mann-Kendall Trend Test



Appendix B
Mann-Kendall Trend Test

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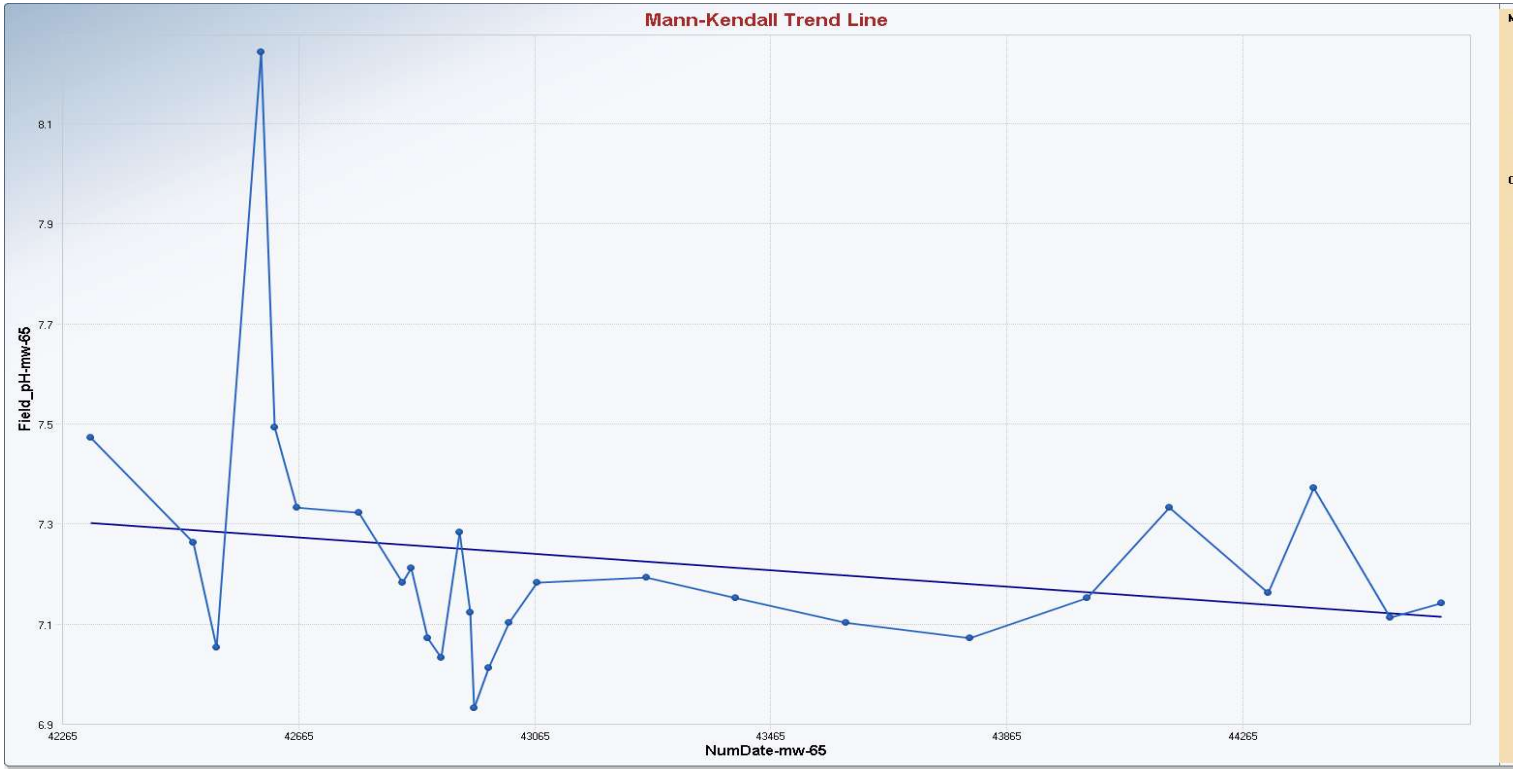

Mann-Kendall Trend Analysis

n	27
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	47.9166
Standardized Value of S	-1.4400
M-K Test Value (S)	-70
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0749

OLS Regression Line (Blue)

OLS Regression Slope	-0.0001
OLS Regression Intercept	10.8170

Insufficient statistical evidence of a significant trend at the specified level of significance.

Appendix B
Mann-Kendall Trend Test

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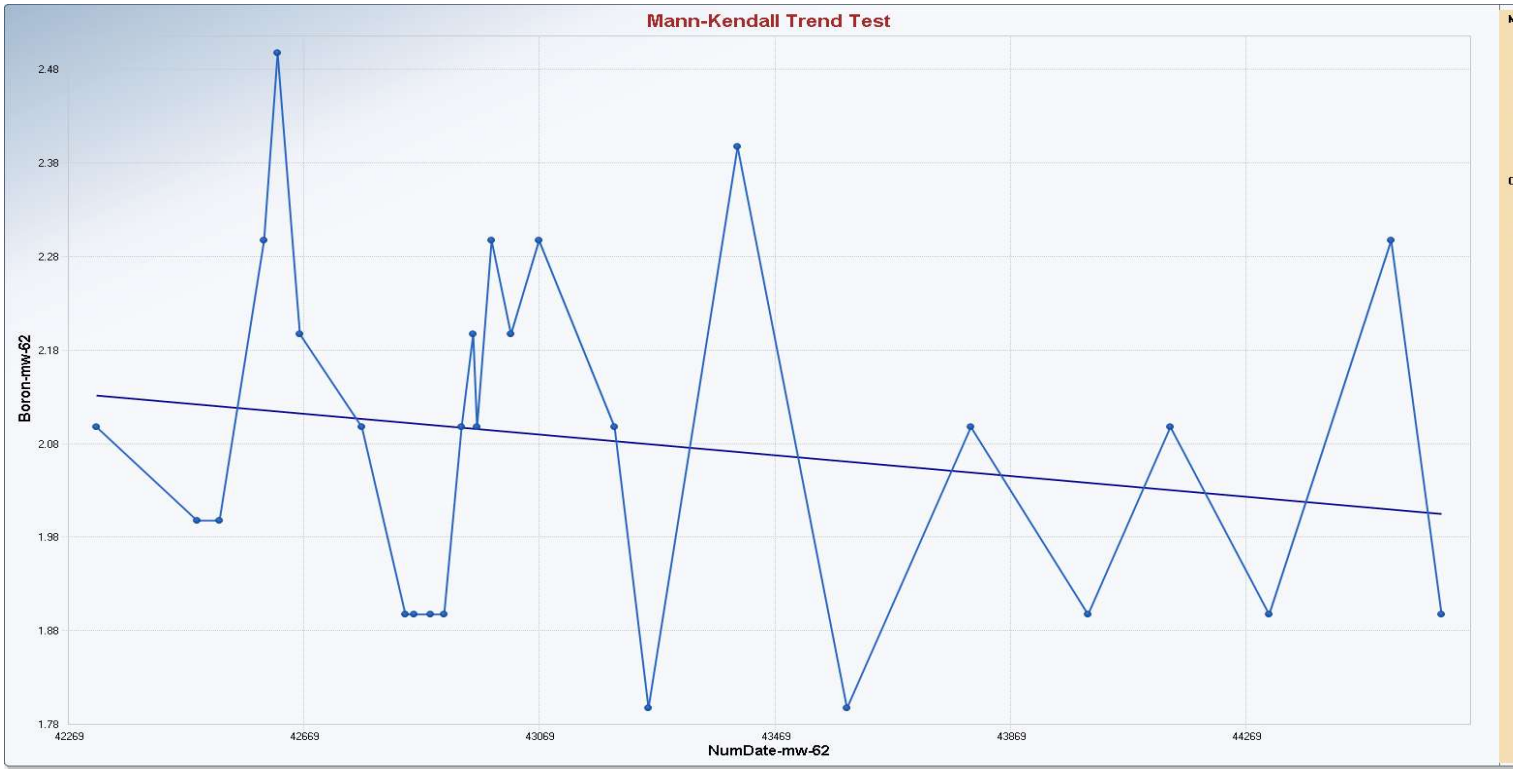
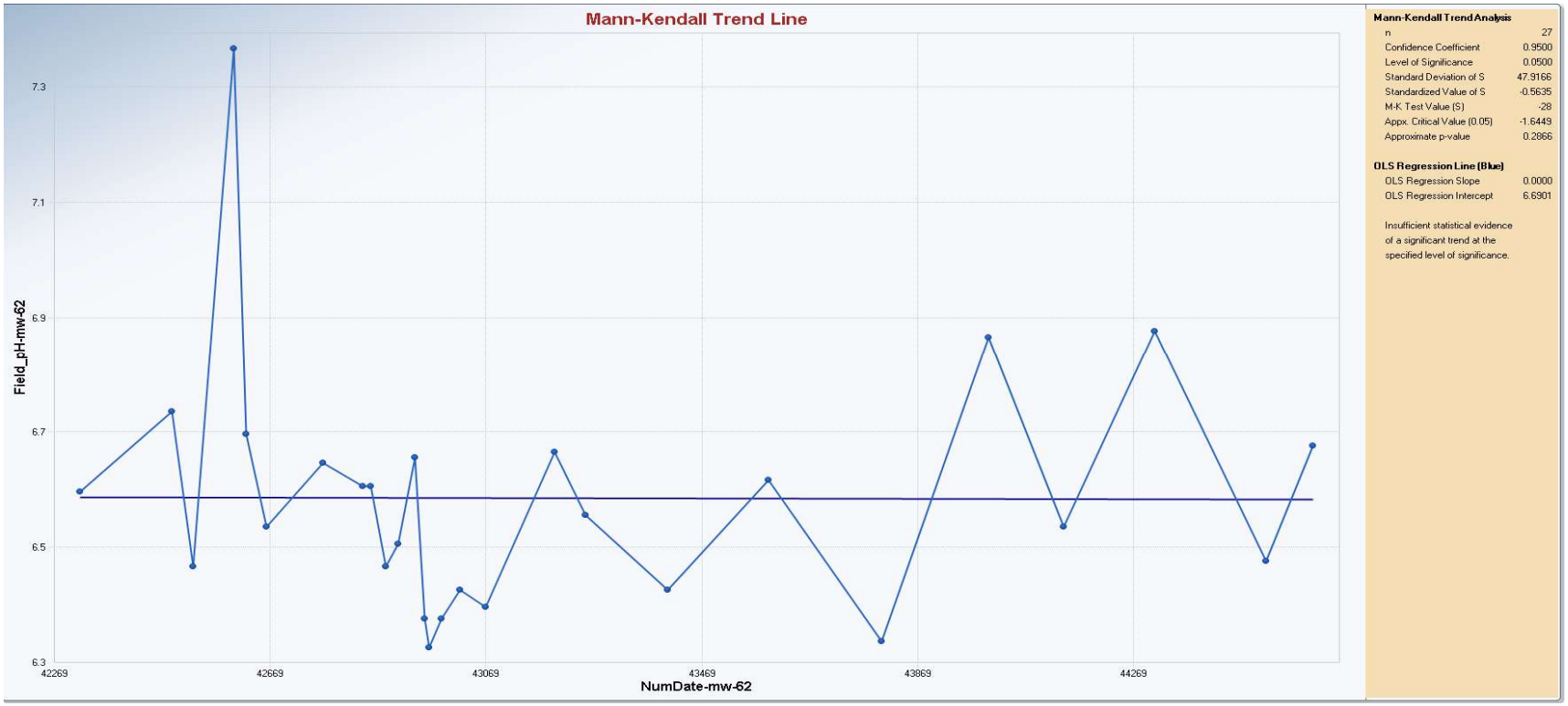
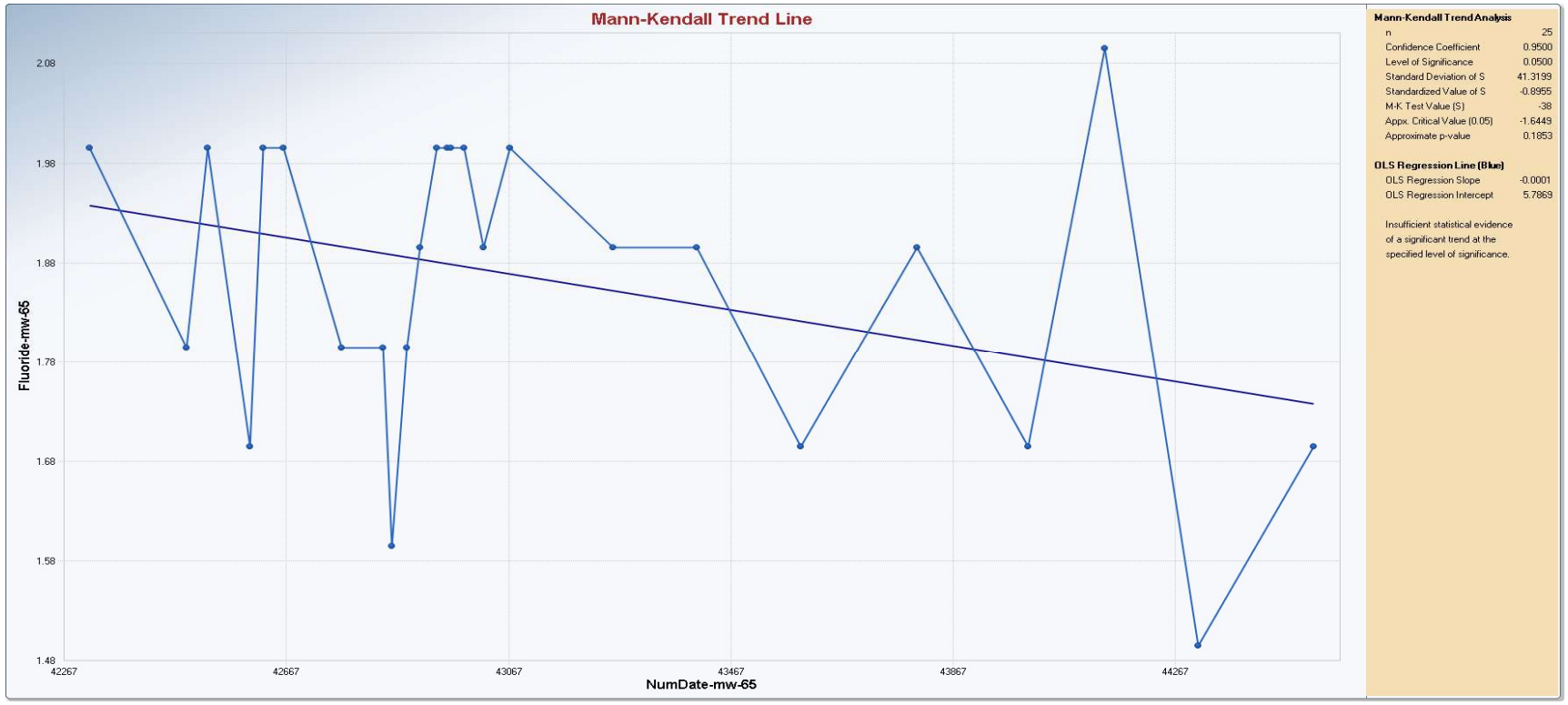
Mann-Kendall Trend Test



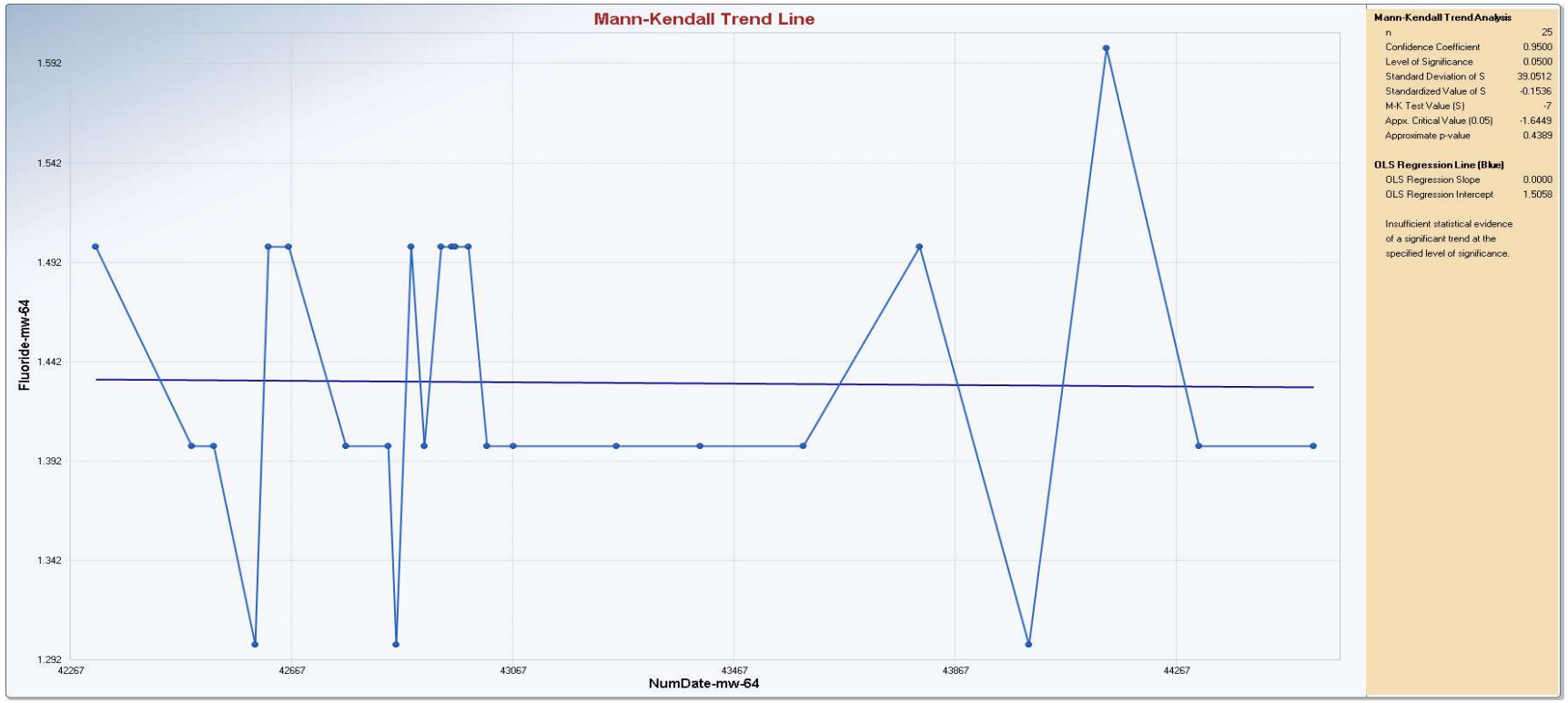
Appendix B
Mann-Kendall Trend Test



Appendix B
Mann-Kendall Trend Test



Appendix B
Mann-Kendall Trend Test



Appendix B
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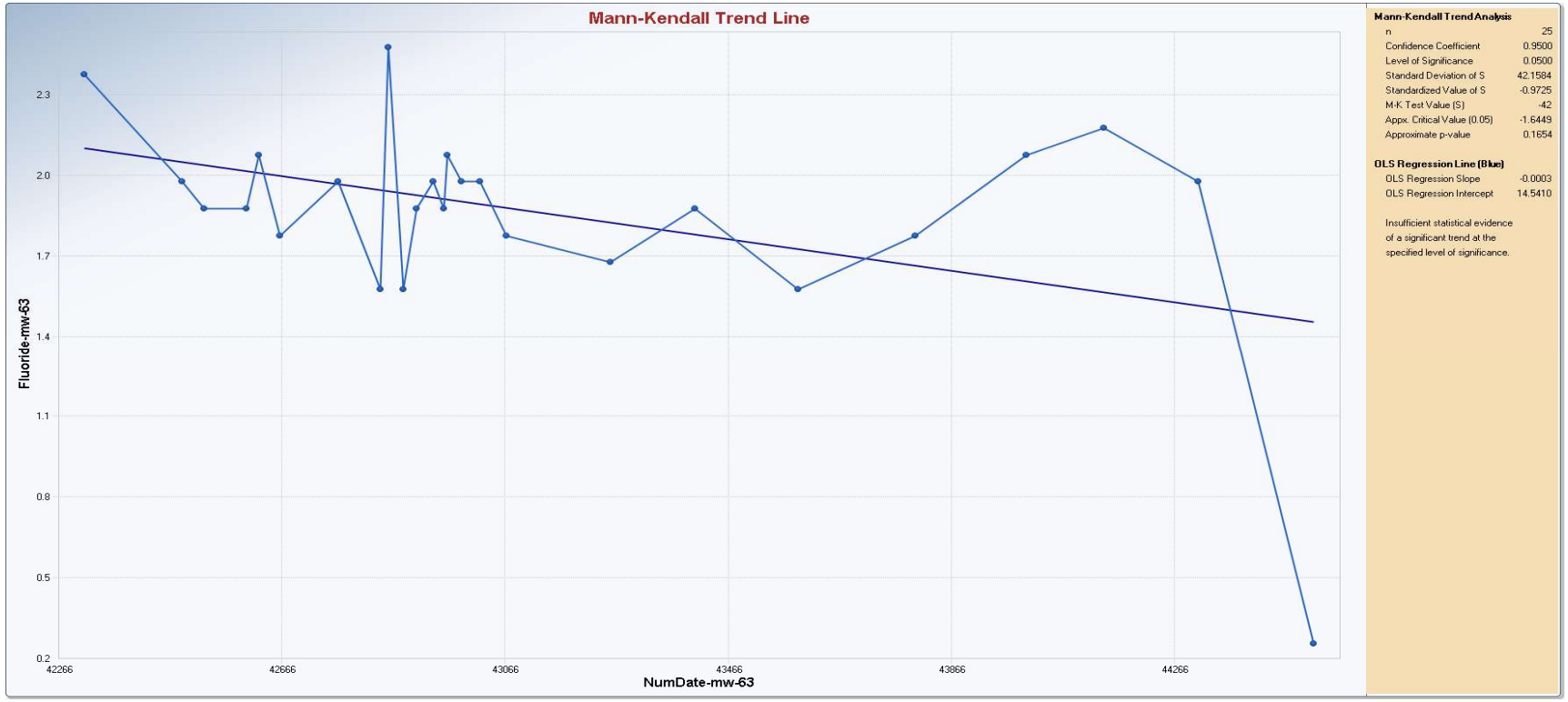
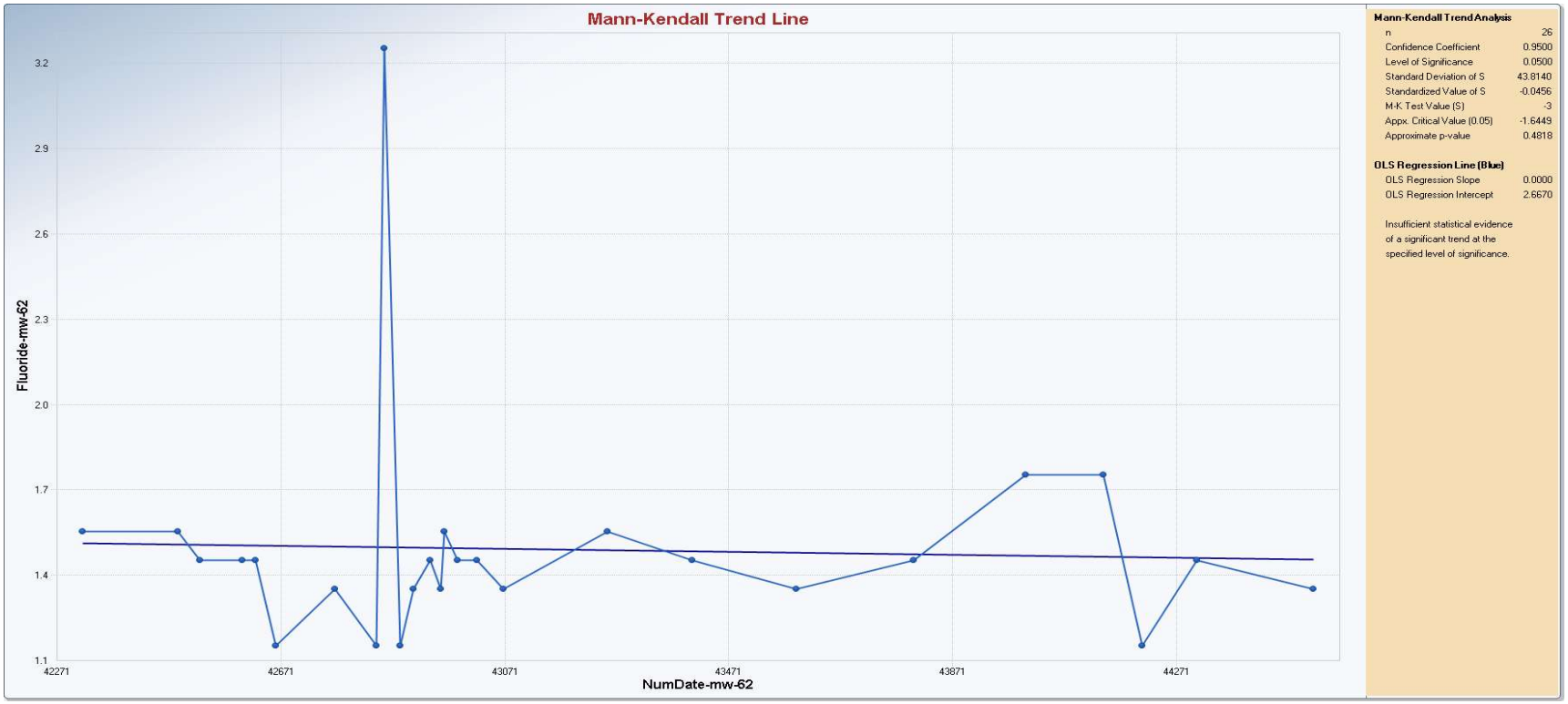
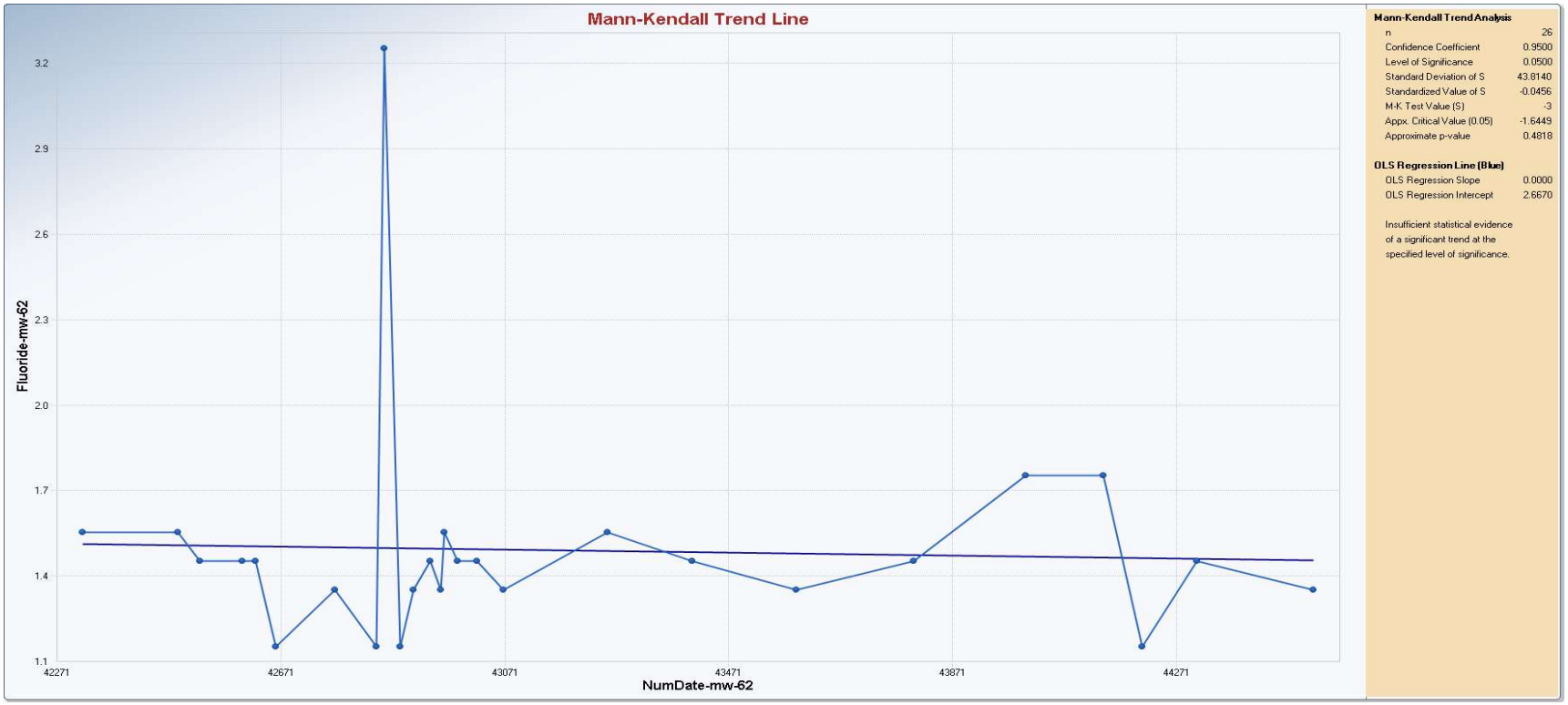


Appendix B
Mann-Kendall Trend Test



Appendix B
Mann-Kendall Trend Test



Appendix B
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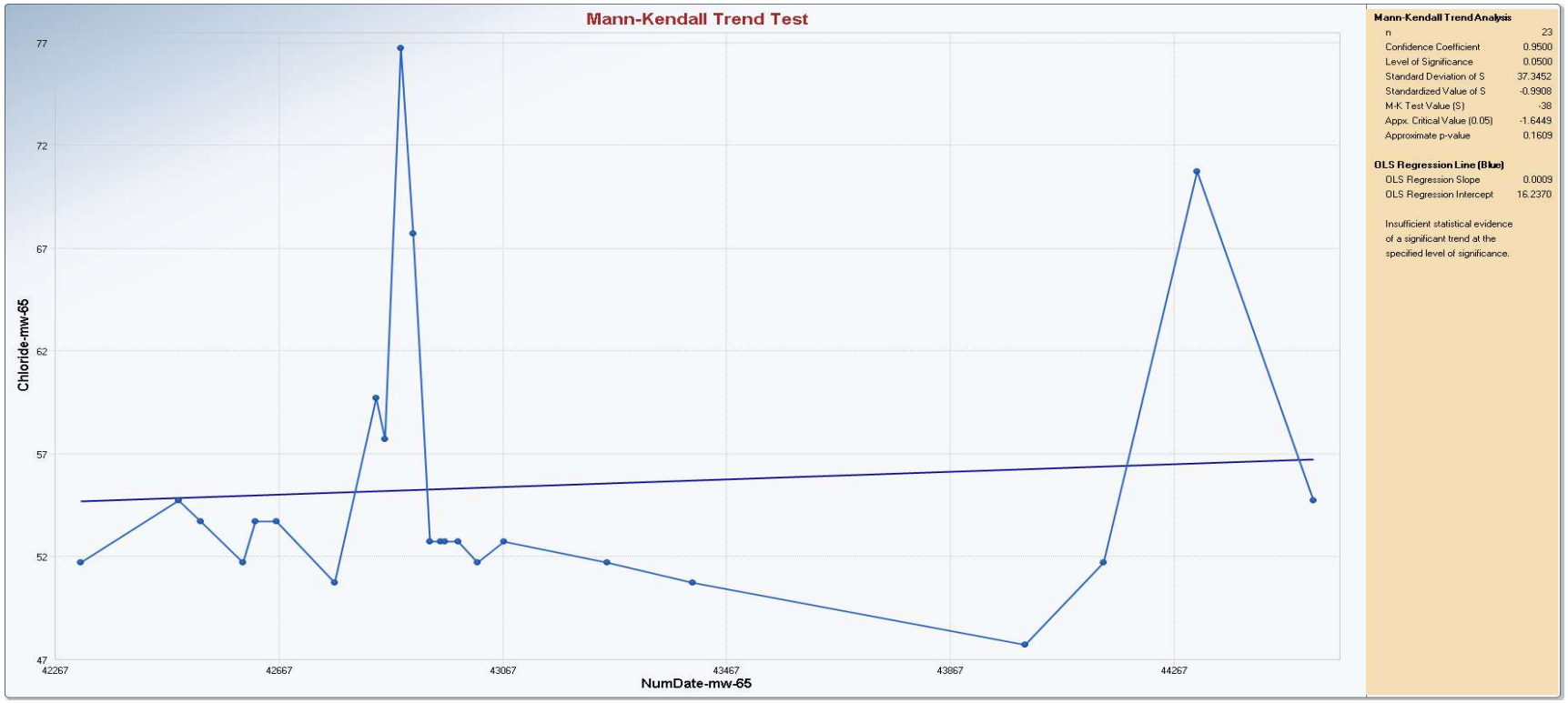

Appendix B
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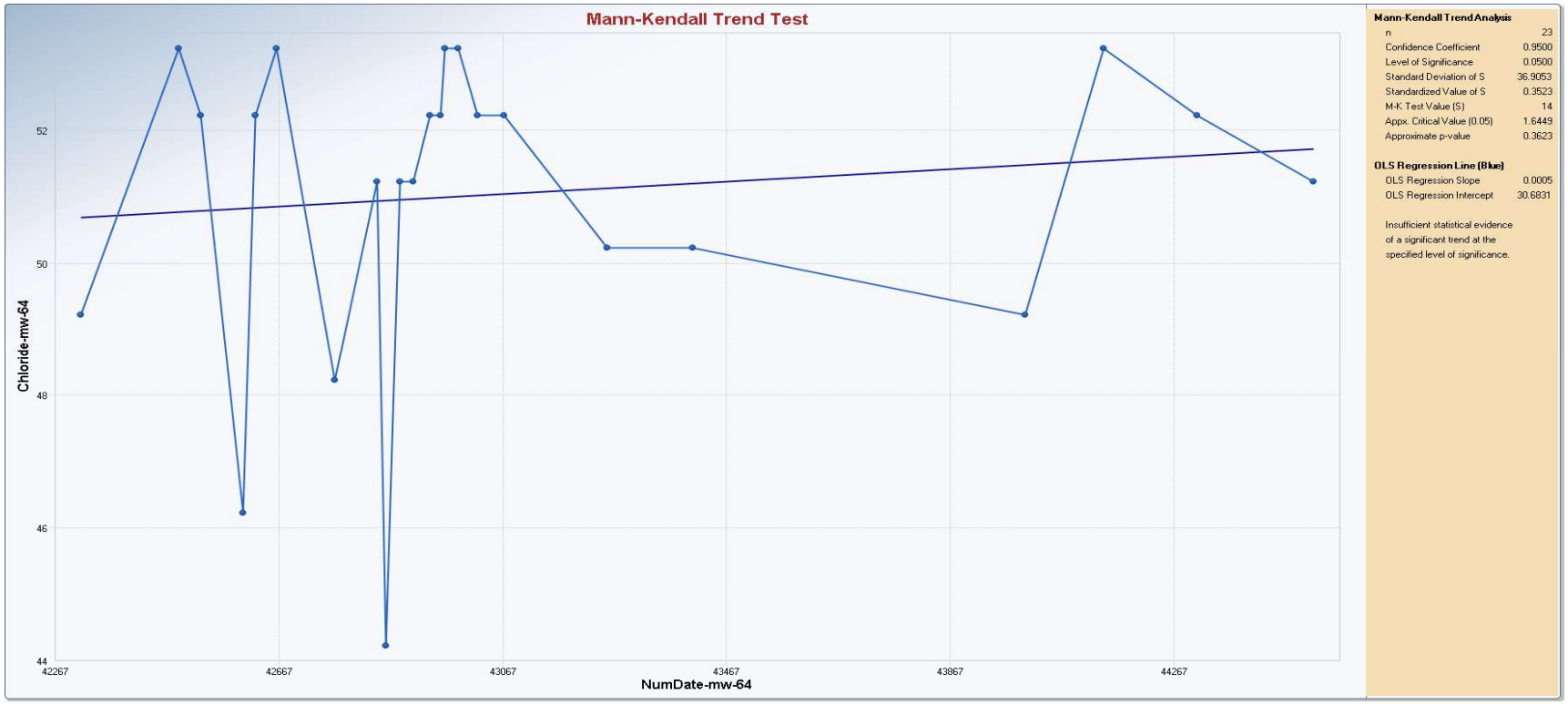

Appendix B
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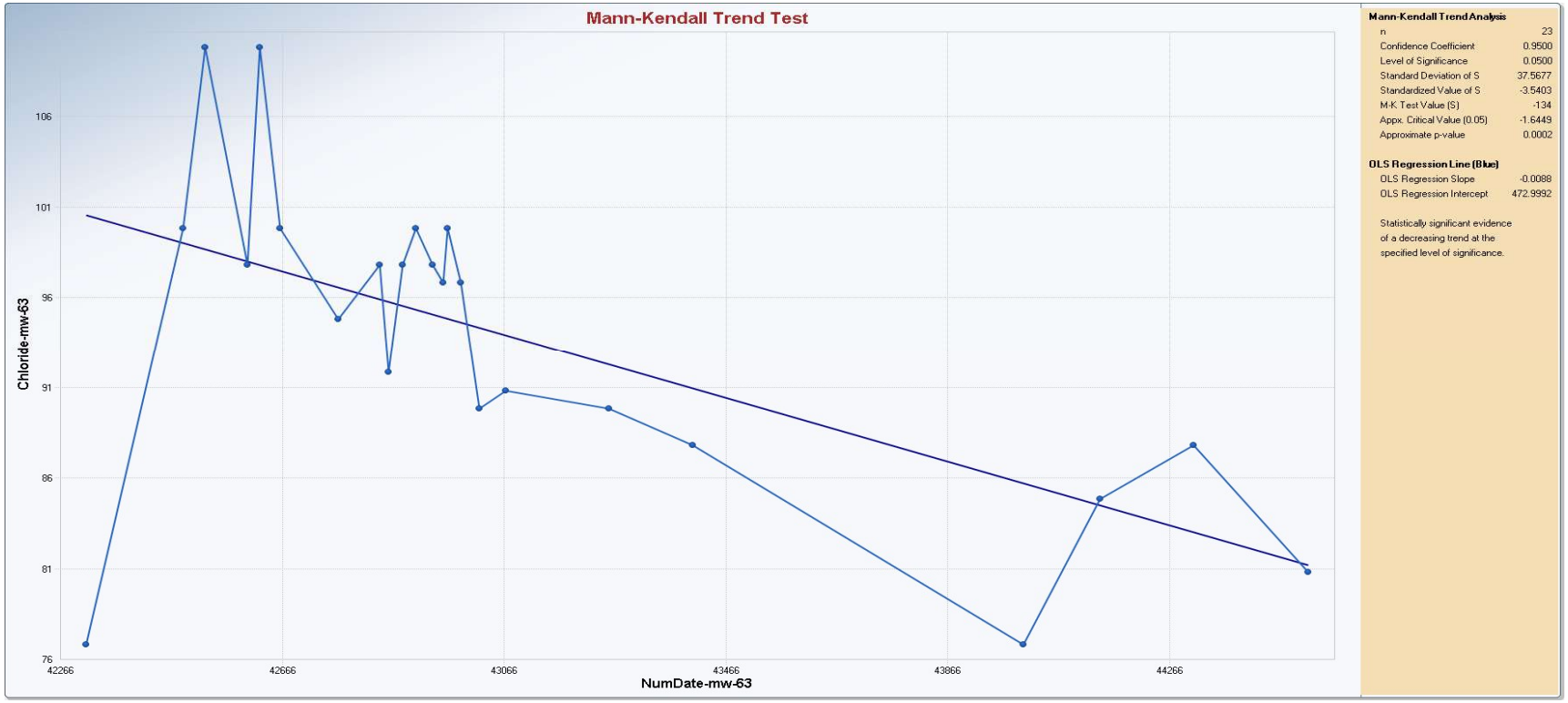
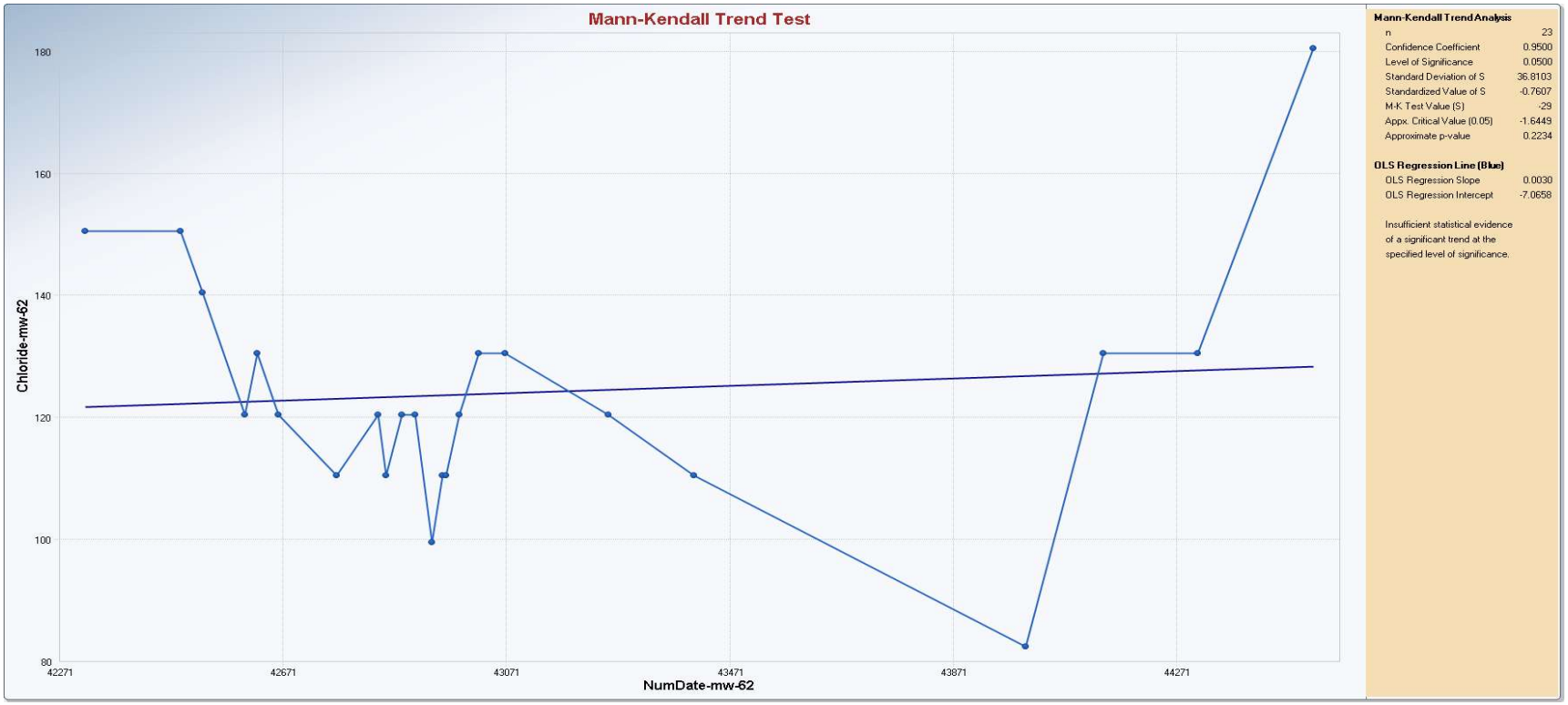


Appendix B
Mann-Kendall Trend Test



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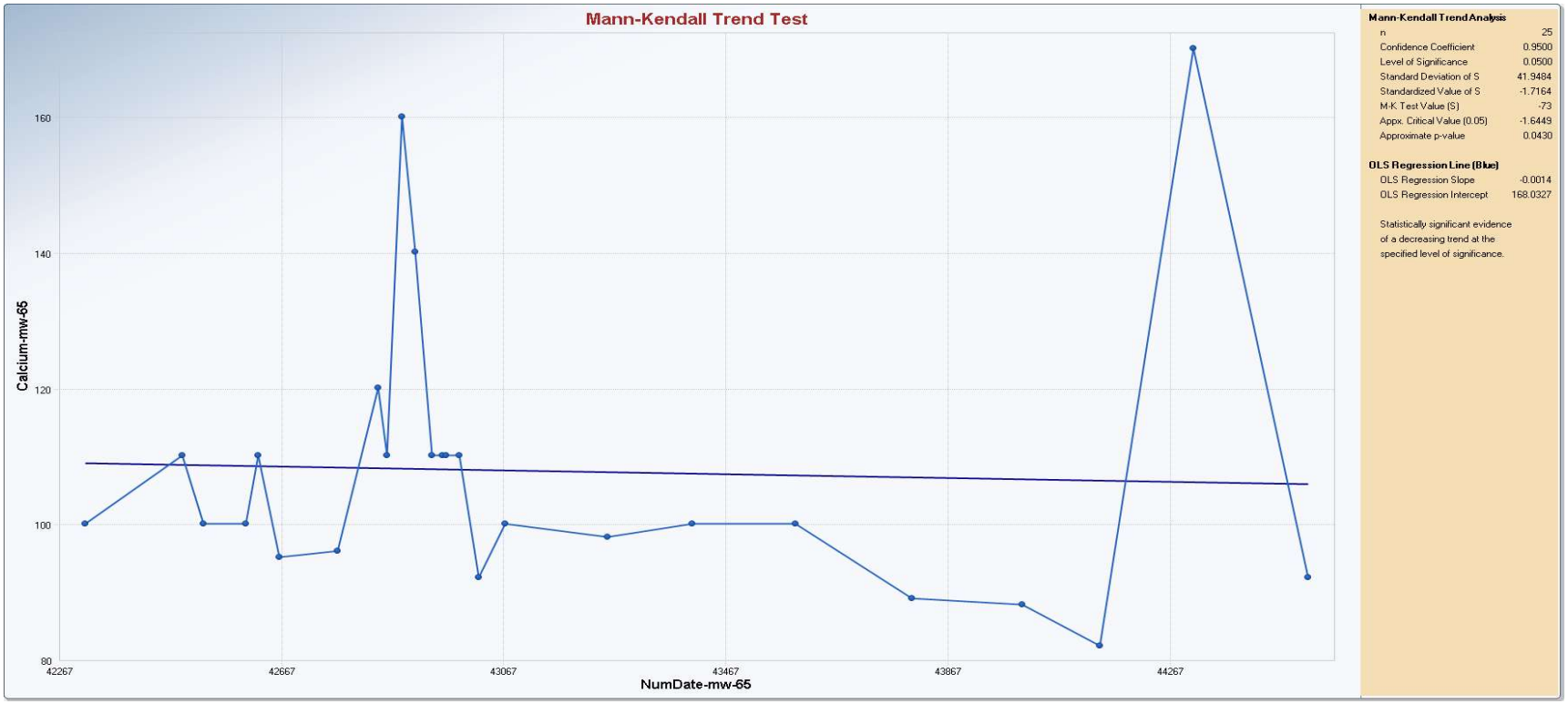

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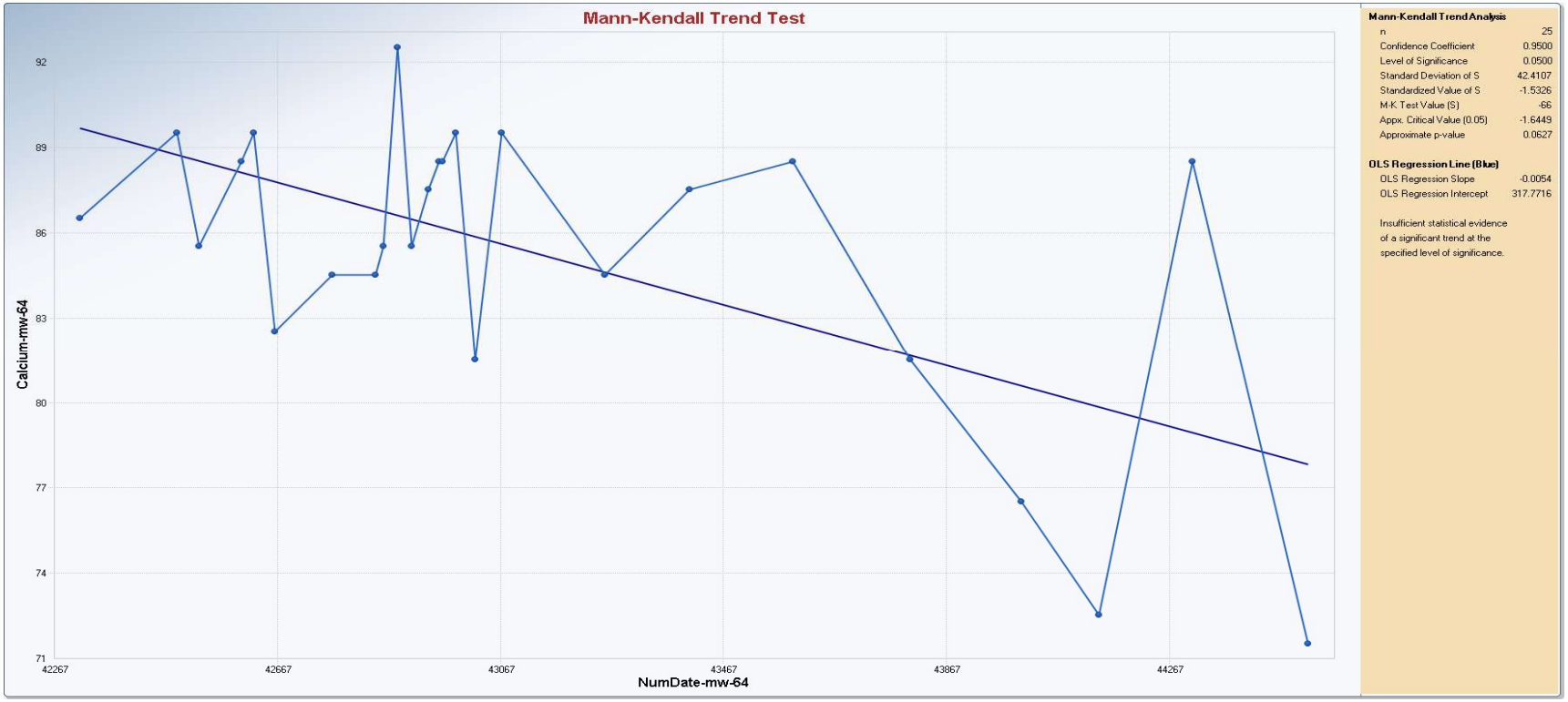
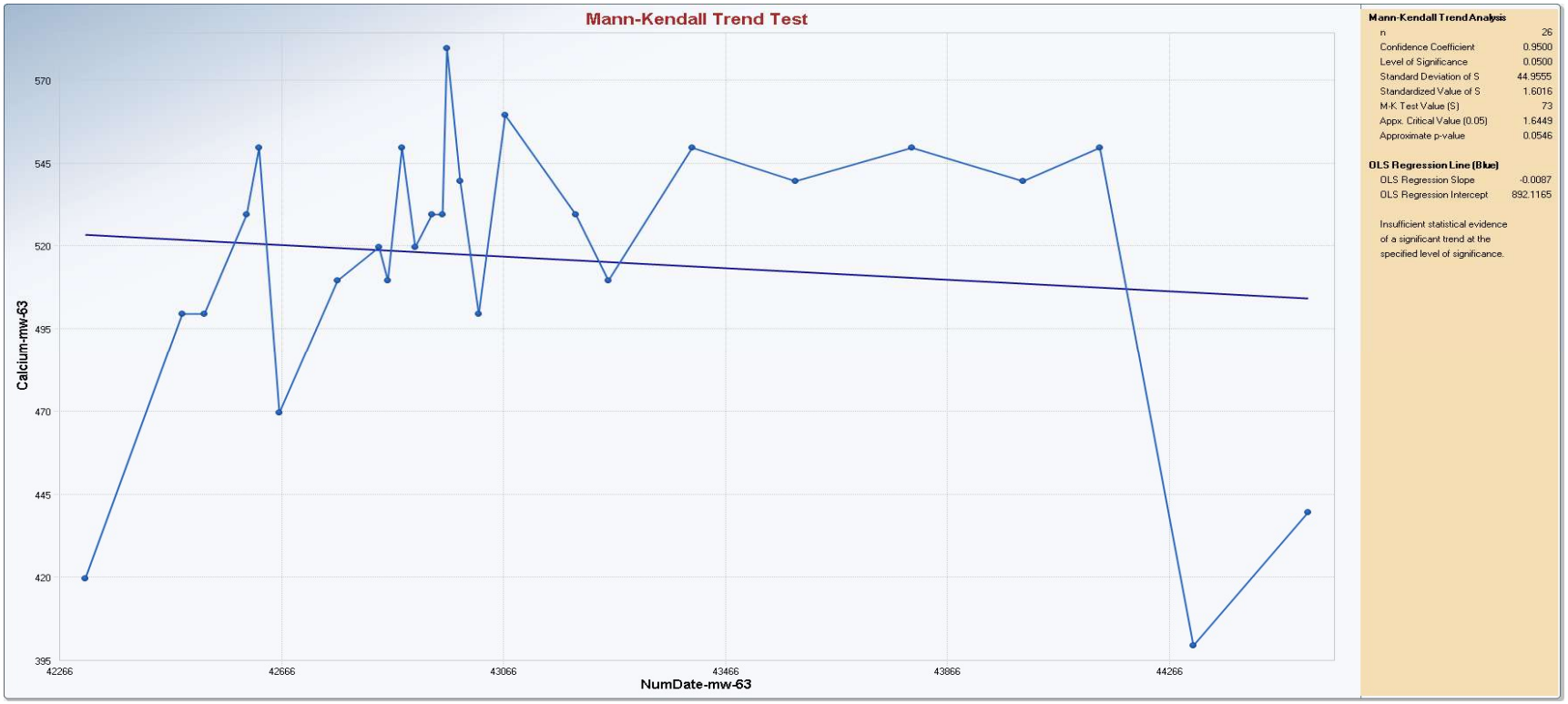


Appendix B
Mann-Kendall Trend Test



Appendix B
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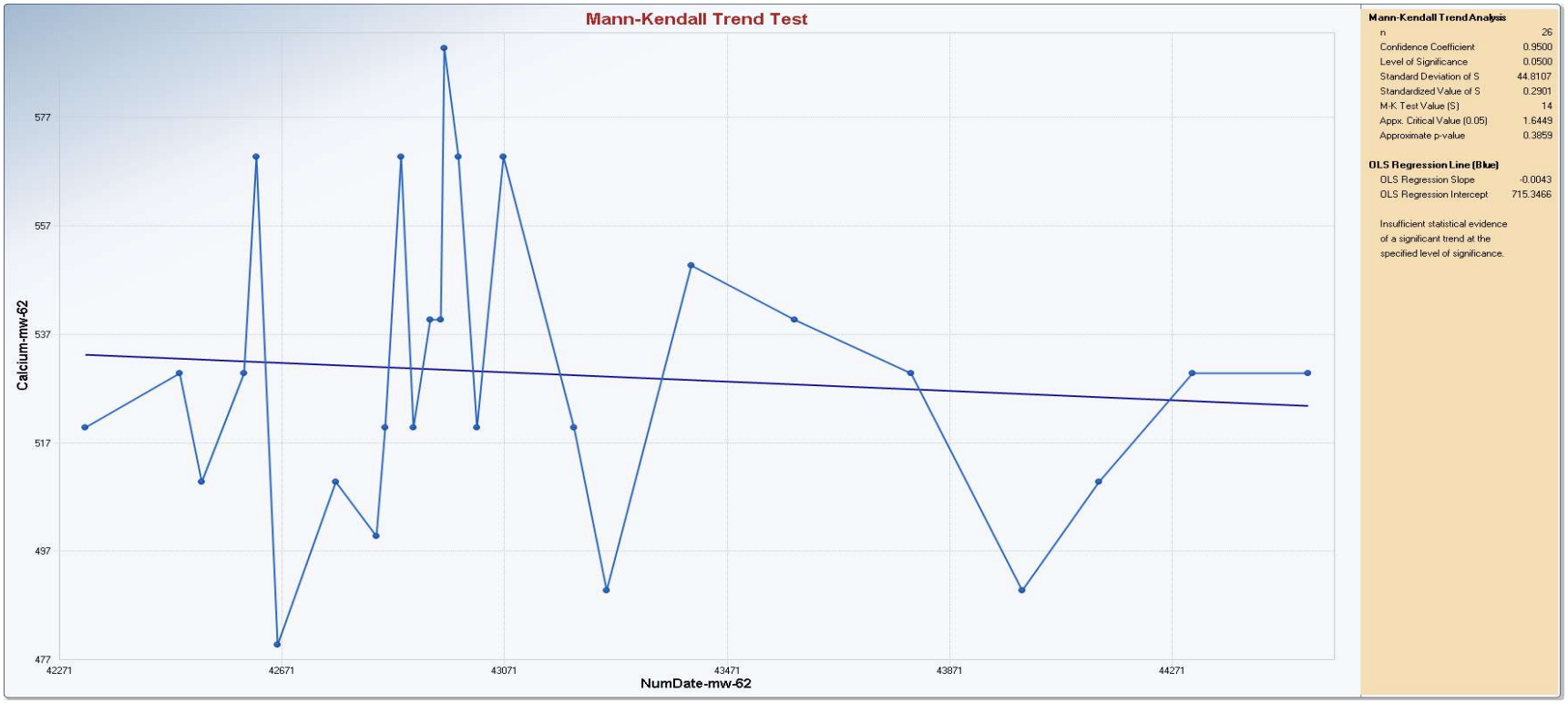

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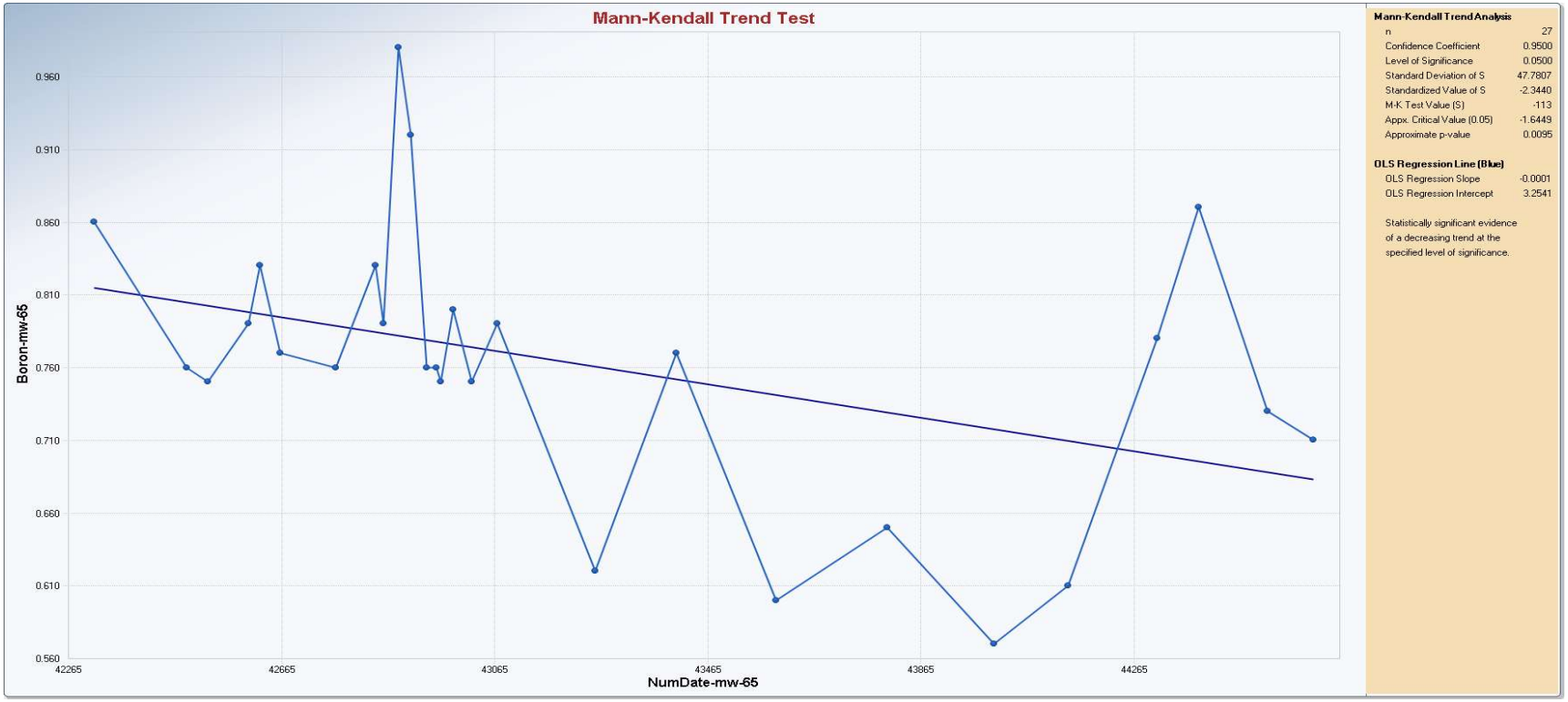

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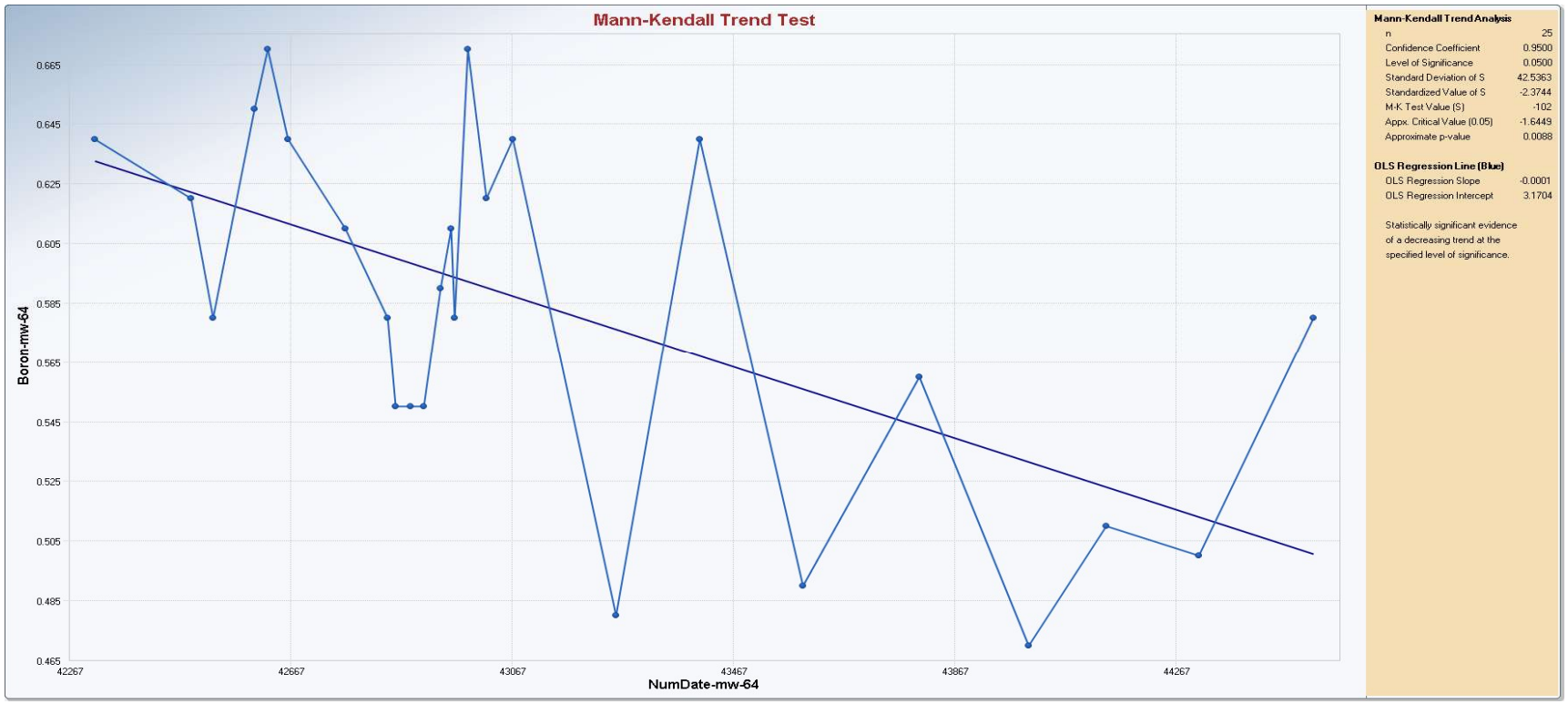

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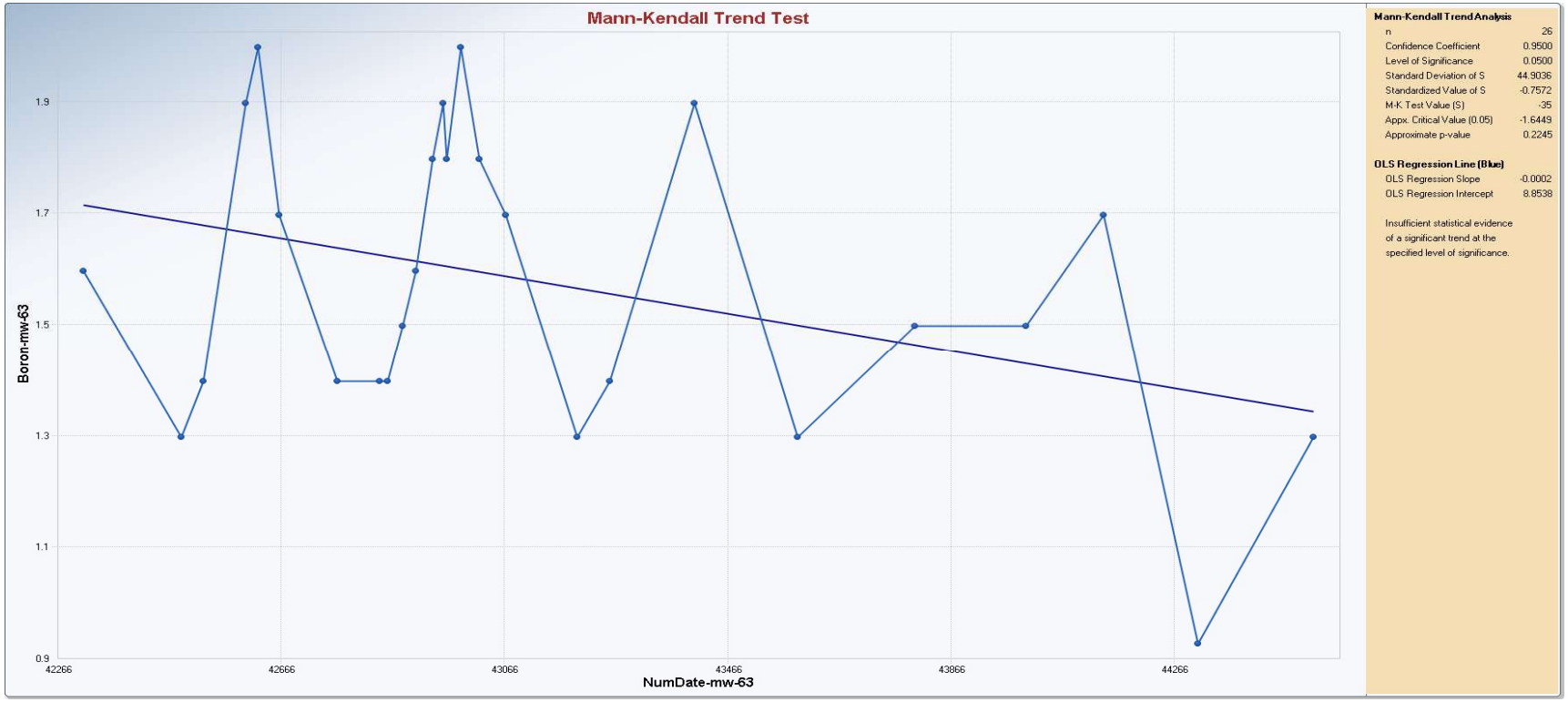

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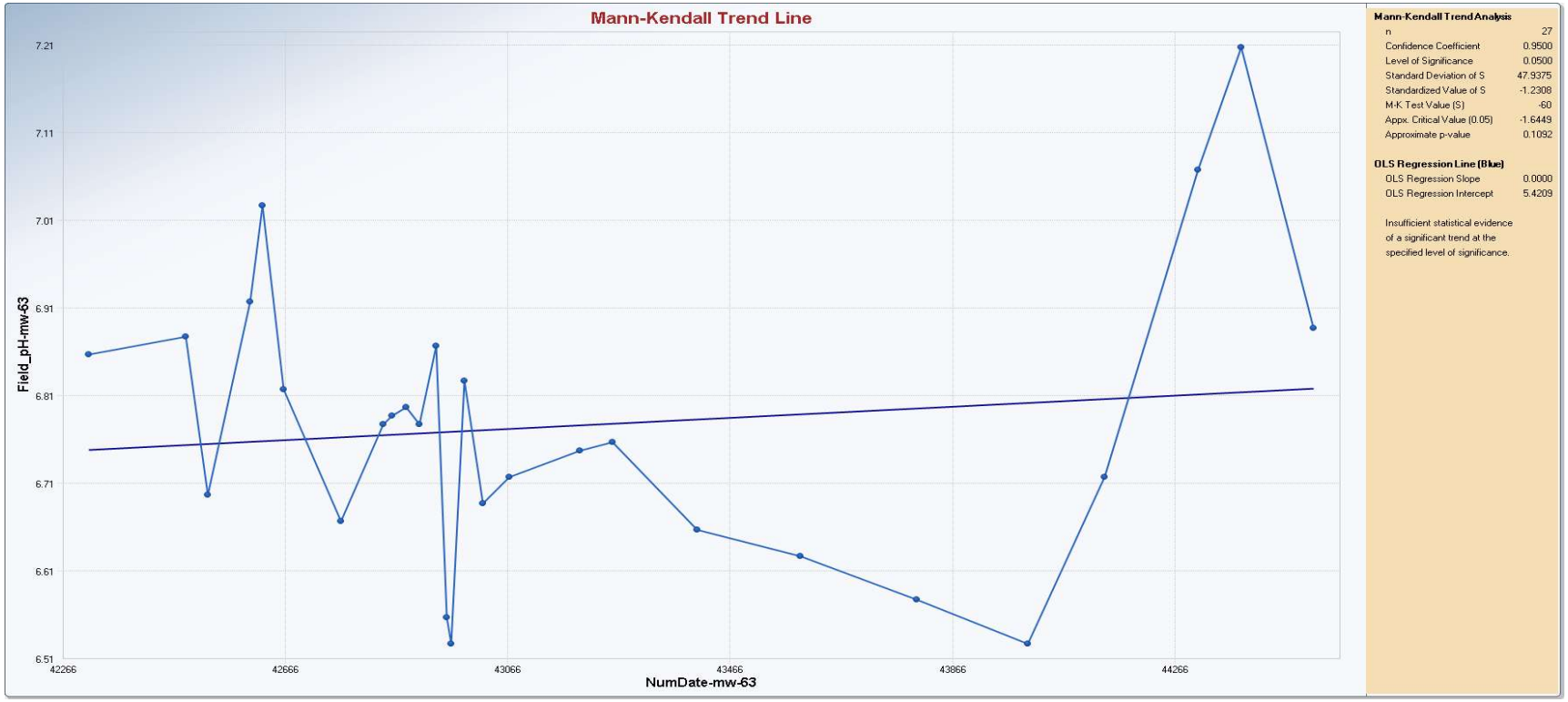

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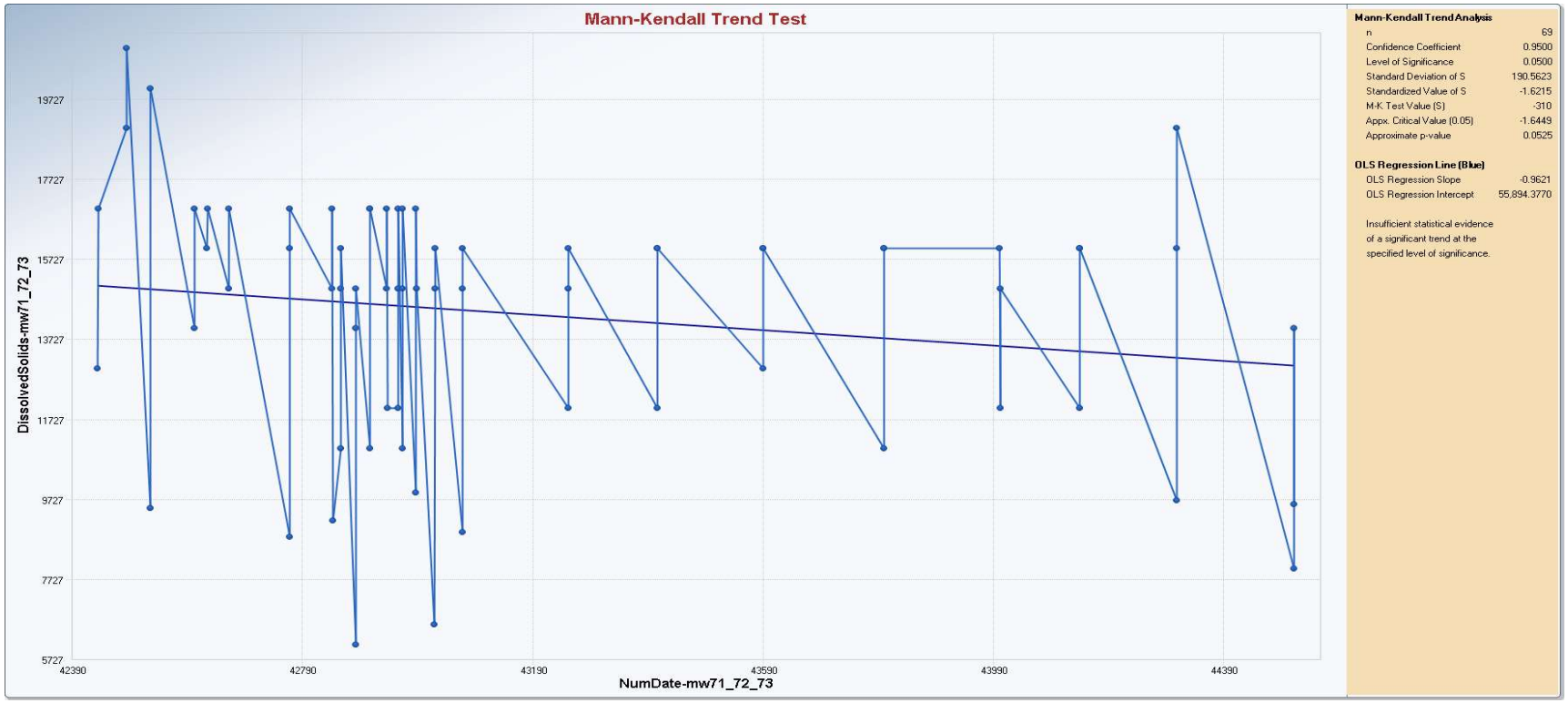

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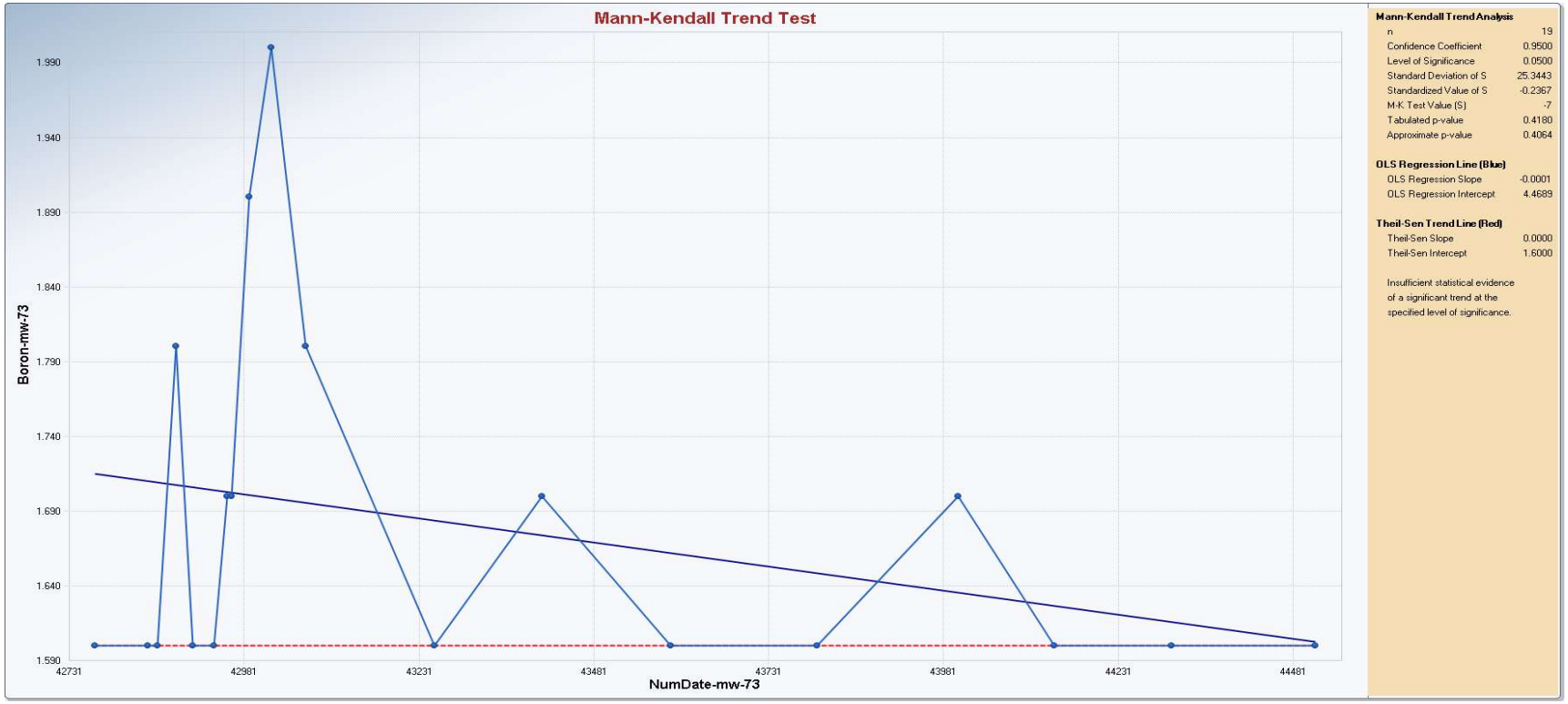

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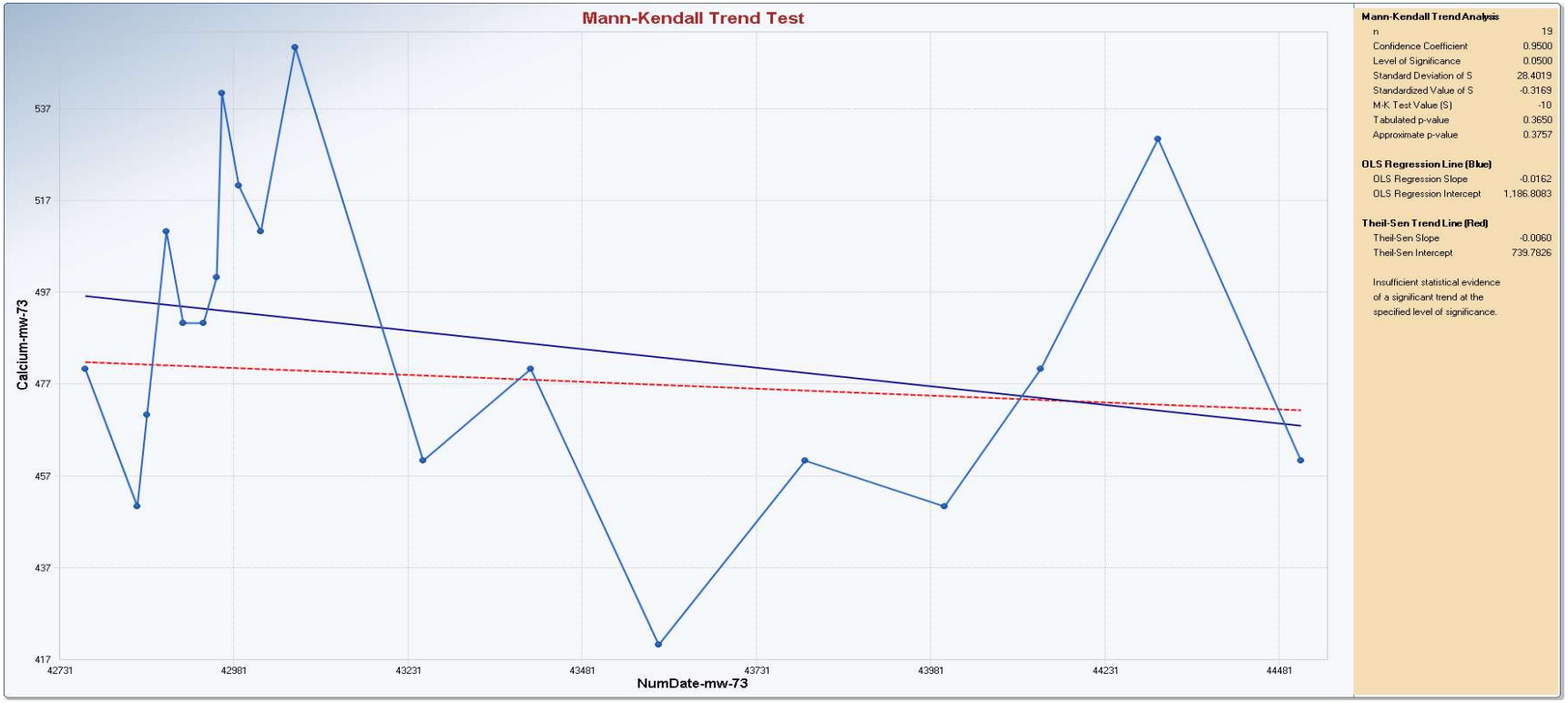

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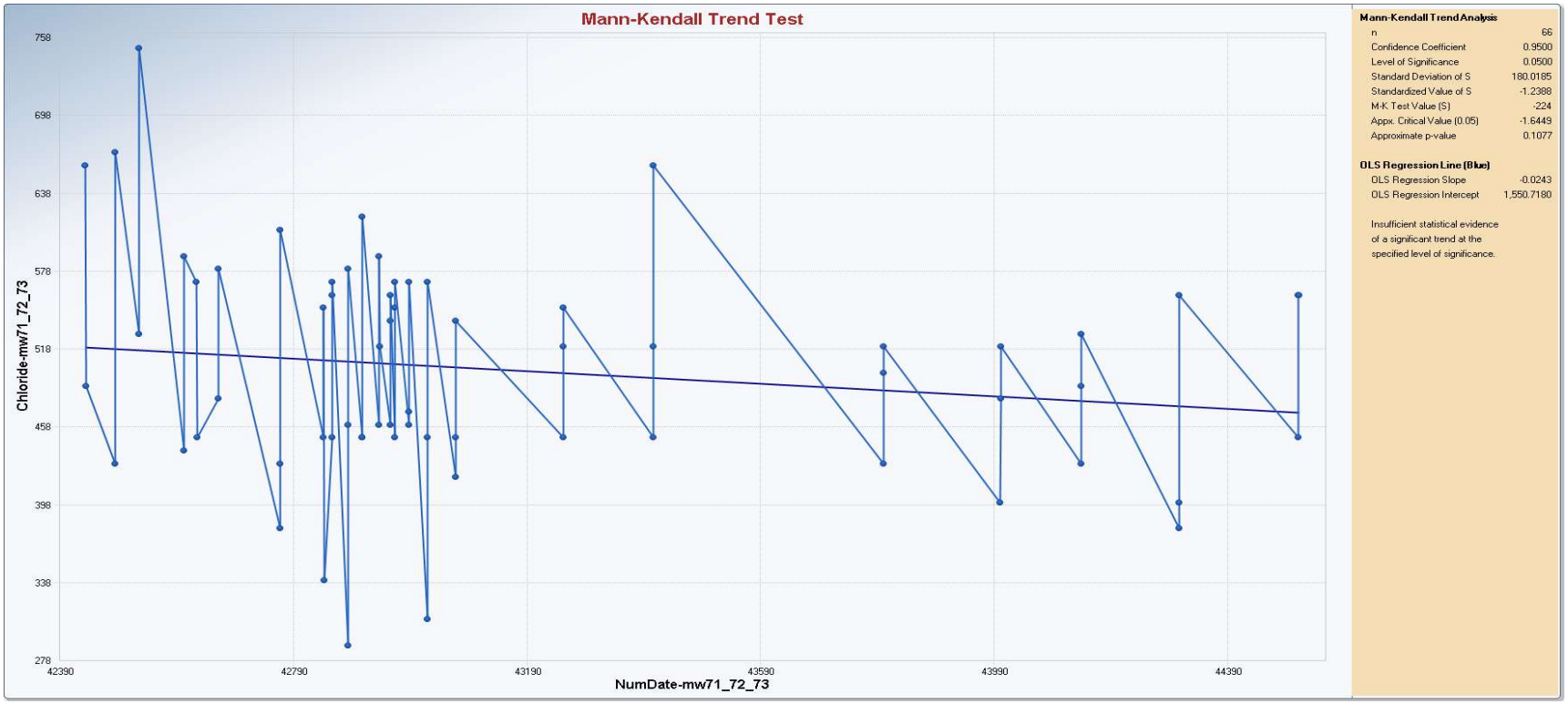

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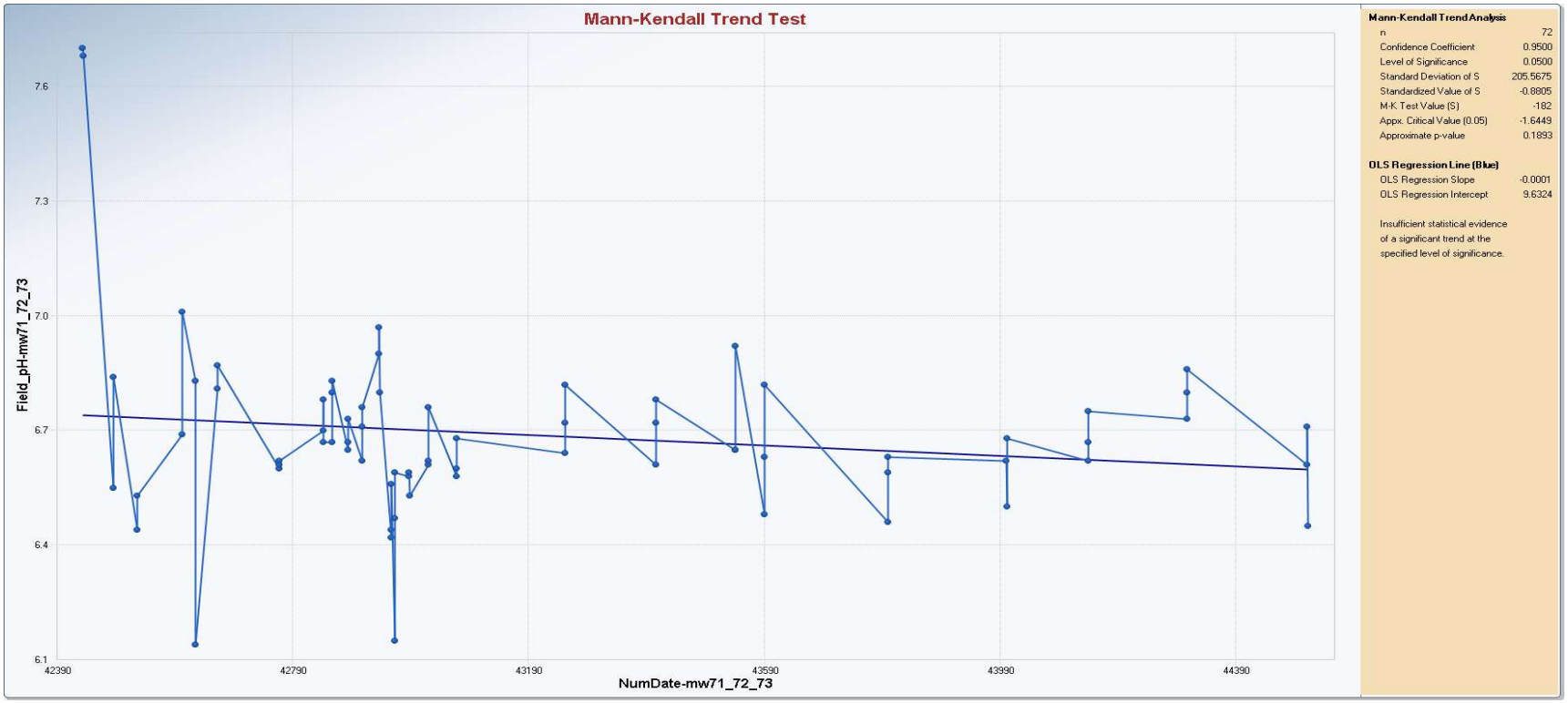

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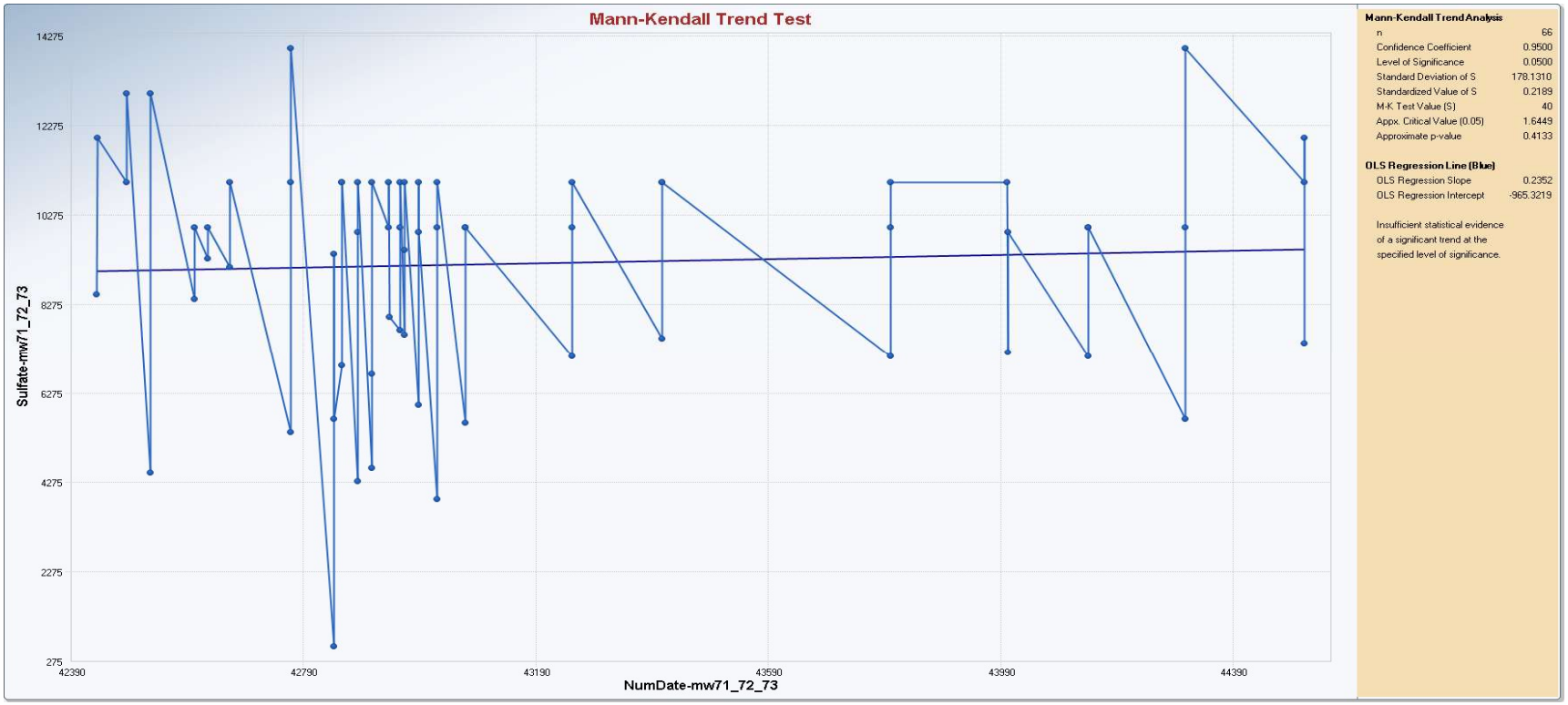


Appendix B
Summary Statistics

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.13/4/2022 5:57:23 PM

User Selected Options

From File UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls

Full Precision OFF

From File: UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Boron (mw-62)	27	1	27	0	0.00%	N/A	N/A	2.085	0.0352	0.188	0.0899
Boron (mw-63)	26	1	26	0	0.00%	N/A	N/A	1.578	0.0707	0.266	0.168
Boron (mw-64)	25	0	25	0	0.00%	N/A	N/A	0.583	0.00354	0.0595	0.102
Boron (mw-65)	27	0	27	0	0.00%	N/A	N/A	0.761	0.00886	0.0941	0.124
Boron (mw-71)	25	1	25	0	0.00%	N/A	N/A	0.572	0.00395	0.0628	0.11
Boron (mw-72)	25	1	25	0	0.00%	N/A	N/A	0.225	4.6767E-4	0.0216	0.0962
Boron (mw-73)	19	1	19	0	0.00%	N/A	N/A	1.679	0.014	0.118	0.0704
Calcium (mw-62)	26	2	26	0	0.00%	N/A	N/A	530	760	27.57	0.052
Calcium (mw-63)	26	1	26	0	0.00%	N/A	N/A	516.5	1832	42.8	0.0829
Calcium (mw-64)	25	0	25	0	0.00%	N/A	N/A	85.72	27.29	5.224	0.0609
Calcium (mw-65)	25	2	25	0	0.00%	N/A	N/A	107.7	437	20.9	0.194
Calcium (mw-71)	25	1	25	0	0.00%	N/A	N/A	450.4	687.3	26.22	0.0582
Calcium (mw-72)	25	1	25	0	0.00%	N/A	N/A	455.2	1293	35.95	0.079
Calcium (mw-73)	19	1	19	0	0.00%	N/A	N/A	486.8	1156	34	0.0698
Chloride (mw-62)	23	5	23	0	0.00%	N/A	N/A	123.5	381.8	19.54	0.158
Chloride (mw-63)	23	4	23	0	0.00%	N/A	N/A	93.91	76.54	8.749	0.0932
Chloride (mw-64)	23	2	23	0	0.00%	N/A	N/A	50.83	5.423	2.329	0.0458
Chloride (mw-65)	23	4	23	0	0.00%	N/A	N/A	55.7	49.13	7.009	0.126
Chloride (mw-71)	24	2	24	0	0.00%	N/A	N/A	573.8	3538	59.48	0.104
Chloride (mw-72)	24	2	24	0	0.00%	N/A	N/A	450	695.7	26.38	0.0586
Chloride (mw-73)	18	2	18	0	0.00%	N/A	N/A	475.6	10379	101.9	0.214
Fluoride (mw-62)	26	2	26	0	0.00%	N/A	N/A	1.538	0.154	0.392	0.255
Fluoride (mw-63)	25	2	25	0	0.00%	N/A	N/A	1.883	0.16	0.4	0.212
Fluoride (mw-64)	25	0	25	0	0.00%	N/A	N/A	1.432	0.0056	0.0748	0.0523
Fluoride (mw-65)	25	2	25	0	0.00%	N/A	N/A	1.868	0.0231	0.152	0.0814

Appendix B
Summary Statistics

User Selected Options

Fluoride (mw-71)	26	0	2	24	92.31%	0.05	2	0.238	0.51	0.714	3.006
Fluoride (mw-72)	26	0	0	26	100.00%	0.05	2	N/A	N/A	N/A	N/A
Fluoride (mw-73)	20	0	2	18	90.00%	0.4	0.8	0.0915	8.1225E-4	0.0285	0.311
Sulfate (mw-62)	23	5	23	0	0.00%	N/A	N/A	3391	52648	229.5	0.0677
Sulfate (mw-63)	23	4	23	0	0.00%	N/A	N/A	2704	184071	429	0.159
Sulfate (mw-64)	23	2	23	0	0.00%	N/A	N/A	363.5	13296	115.3	0.317
Sulfate (mw-65)	23	4	23	0	0.00%	N/A	N/A	483.9	12616	112.3	0.232
Sulfate (mw-71)	24	2	24	0	0.00%	N/A	N/A	10271	3919547	1980	0.193
Sulfate (mw-72)	24	2	24	0	0.00%	N/A	N/A	10130	6000830	2450	0.242
Sulfate (mw-73)	18	2	18	0	0.00%	N/A	N/A	6494	1389967	1179	0.182
DissolvedSolids (mw-62)	25	3	25	0	0.00%	N/A	N/A	5572	622933	789.3	0.142
DissolvedSolids (mw-63)	25	2	25	0	0.00%	N/A	N/A	4308	100767	317.4	0.0737
DissolvedSolids (mw-64)	25	0	25	0	0.00%	N/A	N/A	778.4	2014	44.88	0.0577
DissolvedSolids (mw-65)	25	2	25	0	0.00%	N/A	N/A	1018	34717	186.3	0.183
DissolvedSolids (mw-71)	25	1	25	0	0.00%	N/A	N/A	15520	5760000	2400	0.155
DissolvedSolids (mw-72)	25	1	25	0	0.00%	N/A	N/A	16140	2740000	1655	0.103
DissolvedSolids (mw-73)	19	1	19	0	0.00%	N/A	N/A	10411	3562105	1887	0.181
Field_pH (mw-62)	27	1	27	0	0.00%	N/A	N/A	6.62	0.0457	0.214	0.0323
Field_pH (mw-63)	27	0	27	0	0.00%	N/A	N/A	6.779	0.0261	0.161	0.0238
Field_pH (mw-64)	25	0	25	0	0.00%	N/A	N/A	7.445	0.0153	0.124	0.0166
Field_pH (mw-65)	27	0	27	0	0.00%	N/A	N/A	7.254	0.0596	0.244	0.0337
Field_pH (mw-71)	26	0	26	0	0.00%	N/A	N/A	6.786	0.0548	0.234	0.0345
Field_pH (mw-72)	26	0	26	0	0.00%	N/A	N/A	6.707	0.0745	0.273	0.0407
Field_pH (mw-73)	20	0	20	0	0.00%	N/A	N/A	6.641	0.0159	0.126	0.019

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Boron (mw-62)	27	1	1.8	2.5	2.085	2.1	0.0352	0.188	0.297	0.345	0.0899
Boron (mw-63)	26	1	0.93	2	1.578	1.55	0.0707	0.266	0.297	-0.229	0.168
Boron (mw-64)	25	0	0.47	0.67	0.583	0.58	0.00354	0.0595	0.0593	-0.424	0.102
Boron (mw-65)	27	0	0.57	0.98	0.761	0.76	0.00886	0.0941	0.0445	-0.0831	0.124
Boron (mw-71)	25	1	0.44	0.73	0.572	0.56	0.00395	0.0628	0.0297	0.846	0.11
Boron (mw-72)	25	1	0.16	0.26	0.225	0.23	4.6767E-4	0.0216	0.0148	-1.005	0.0962
Boron (mw-73)	19	1	1.6	2	1.679	1.6	0.014	0.118	0	1.581	0.0704

Appendix B
Summary Statistics

User Selected Options

Calcium (mw-62)	26	2	480	590	530	530	760	27.57	22.24	0.36	0.052
Calcium (mw-63)	26	1	400	580	516.5	530	1832	42.8	29.65	-1.367	0.0829
Calcium (mw-64)	25	0	72	93	85.72	87	27.29	5.224	2.965	-1.438	0.0609
Calcium (mw-65)	25	2	82	170	107.7	100	437	20.9	14.83	1.859	0.194
Calcium (mw-71)	25	1	400	510	450.4	450	687.3	26.22	14.83	-0.138	0.0582
Calcium (mw-72)	25	1	400	570	455.2	450	1293	35.95	29.65	1.134	0.079
Calcium (mw-73)	19	1	420	550	486.8	480	1156	34	29.65	0.132	0.0698
Chloride (mw-62)	23	5	82	180	123.5	120	381.8	19.54	14.83	0.828	0.158
Chloride (mw-63)	23	4	77	110	93.91	97	76.54	8.749	7.413	-0.263	0.0932
Chloride (mw-64)	23	2	44	53	50.83	52	5.423	2.329	1.483	-1.591	0.0458
Chloride (mw-65)	23	4	48	77	55.7	53	49.13	7.009	1.483	2.05	0.126
Chloride (mw-71)	24	2	480	750	573.8	570	3538	59.48	29.65	1.122	0.104
Chloride (mw-72)	24	2	400	530	450	450	695.7	26.38	14.83	0.838	0.0586
Chloride (mw-73)	18	2	290	660	475.6	520	10379	101.9	74.13	-0.383	0.214
Fluoride (mw-62)	26	2	1.2	3.3	1.538	1.5	0.154	0.392	0.148	3.835	0.255
Fluoride (mw-63)	25	2	0.28	2.5	1.883	1.9	0.16	0.4	0.148	-2.658	0.212
Fluoride (mw-64)	25	0	1.3	1.6	1.432	1.4	0.0056	0.0748	0.148	0.0301	0.0523
Fluoride (mw-65)	25	2	1.5	2.1	1.868	1.9	0.0231	0.152	0.148	-0.722	0.0814
Fluoride (mw-71)	2	0	0.14	3.8	1.97	1.97	6.698	2.588	2.713	N/A	1.314
Fluoride (mw-72)	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoride (mw-73)	2	0	0.063	0.12	0.0915	0.0915	0.00162	0.0403	0.0423	N/A	0.44
Sulfate (mw-62)	23	5	2800	4000	3391	3300	52648	229.5	148.3	0.364	0.0677
Sulfate (mw-63)	23	4	1900	4300	2704	2700	184071	429	148.3	2.044	0.159
Sulfate (mw-64)	23	2	270	870	363.5	350	13296	115.3	29.65	4.142	0.317
Sulfate (mw-65)	23	4	350	790	483.9	460	12616	112.3	59.3	1.785	0.232
Sulfate (mw-71)	24	2	4600	14000	10271	10000	3919547	1980	963.7	-0.294	0.193
Sulfate (mw-72)	24	2	610	12000	10130	11000	6000830	2450	0	-3.304	0.242
Sulfate (mw-73)	18	2	3900	8000	6494	7000	1389967	1179	963.7	-0.881	0.182
DissolvedSolids (mw-62)	25	3	2400	6700	5572	5700	622933	789.3	296.5	-2.72	0.142
DissolvedSolids (mw-63)	25	2	3200	4700	4308	4300	100767	317.4	148.3	-2.186	0.0737
DissolvedSolids (mw-64)	25	0	660	890	778.4	790	2014	44.88	14.83	-0.758	0.0577
DissolvedSolids (mw-65)	25	2	540	1500	1018	1000	34717	186.3	88.95	0.436	0.183
DissolvedSolids (mw-71)	25	1	8000	21000	15520	15000	5760000	2400	1483	-0.479	0.155
DissolvedSolids (mw-72)	25	1	9500	19000	16140	16000	2740000	1655	1483	-2.739	0.103
DissolvedSolids (mw-73)	19	1	6100	13000	10411	11000	3562105	1887	1483	-0.957	0.181

Appendix B
Summary Statistics

User Selected Options

Field_pH (mw-62)	27	1	6.36	7.4	6.62	6.59	0.0457	0.214	0.163	1.938	0.0323
Field_pH (mw-63)	27	0	6.53	7.21	6.779	6.78	0.0261	0.161	0.133	0.694	0.0238
Field_pH (mw-64)	25	0	7.22	7.68	7.445	7.45	0.0153	0.124	0.133	0.0348	0.0166
Field_pH (mw-65)	27	0	6.96	8.27	7.254	7.19	0.0596	0.244	0.133	2.93	0.0337
Field_pH (mw-71)	26	0	6.47	7.73	6.786	6.77	0.0548	0.234	0.133	2.693	0.0345
Field_pH (mw-72)	26	0	6.17	7.71	6.707	6.68	0.0745	0.273	0.104	1.525	0.0407
Field_pH (mw-73)	20	0	6.45	6.95	6.641	6.645	0.0159	0.126	0.111	0.539	0.019

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Boron (mw-62)	27	1	1.9	1.9	1.9	2.1	2.2	2.28	2.3	2.37	2.474
Boron (mw-63)	26	1	1.3	1.4	1.4	1.55	1.8	1.8	1.9	1.975	2
Boron (mw-64)	25	0	0.494	0.542	0.55	0.58	0.64	0.64	0.646	0.666	0.67
Boron (mw-65)	27	0	0.616	0.714	0.74	0.76	0.795	0.824	0.864	0.905	0.964
Boron (mw-71)	25	1	0.508	0.54	0.55	0.56	0.59	0.592	0.662	0.698	0.723
Boron (mw-72)	25	1	0.204	0.21	0.22	0.23	0.24	0.242	0.25	0.25	0.258
Boron (mw-73)	19	1	1.6	1.6	1.6	1.6	1.7	1.74	1.82	1.91	1.982
Calcium (mw-62)	26	2	495	510	512.5	530	540	550	570	570	585
Calcium (mw-63)	26	1	455	500	502.5	530	547.5	550	550	557.5	575
Calcium (mw-64)	25	0	79	82.8	85	87	89	89.2	90	90	92.28
Calcium (mw-65)	25	2	90.2	94.4	96	100	110	110	132	156	167.6
Calcium (mw-71)	25	1	414	436	440	450	460	470	476	488	505.2
Calcium (mw-72)	25	1	414	430	430	450	470	472	486	498	553.2
Calcium (mw-73)	19	1	450	460	460	480	510	514	532	541	548.2
Chloride (mw-62)	23	5	110	110	110	120	130	130	148	150	173.4
Chloride (mw-63)	23	4	81.8	88	89	97	99	100	100	109	110
Chloride (mw-64)	23	2	48.2	49.4	50	52	52	52.6	53	53	53
Chloride (mw-65)	23	4	51.2	52	52	53	55	56.8	66.4	70.7	75.68
Chloride (mw-71)	24	2	506	532	547.5	570	590	598	648	668.5	731.6
Chloride (mw-72)	24	2	430	430	437.5	450	460	460	474	488.5	520.8
Chloride (mw-73)	18	2	331	380	390	520	547.5	550	563	583.5	644.7
Fluoride (mw-62)	26	2	1.2	1.4	1.4	1.5	1.575	1.6	1.7	1.8	2.925
Fluoride (mw-63)	25	2	1.6	1.78	1.8	1.9	2	2.1	2.16	2.36	2.476
Fluoride (mw-64)	25	0	1.34	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.576

Appendix B
Summary Statistics

User Selected Options											
Fluoride (mw-65)	25	2	1.7	1.7	1.8	1.9	2	2	2	2	2.076
Fluoride (mw-71)	26	0	0.4	0.4	0.5	0.8	2	2	2	2	3.35
Fluoride (mw-72)	26	0	0.4	0.4	0.5	0.8	2	2	2	2	2
Fluoride (mw-73)	20	0	0.372	0.72	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Sulfate (mw-62)	23	5	3220	3300	3300	3300	3500	3500	3600	3780	3956
Sulfate (mw-63)	23	4	2320	2540	2600	2700	2800	2800	2900	2900	3992
Sulfate (mw-64)	23	2	300	320	325	350	365	376	388	390	764.4
Sulfate (mw-65)	23	4	392	410	415	460	495	500	668	737	779
Sulfate (mw-71)	24	2	8680	9360	9475	10000	11000	11400	13000	13850	14000
Sulfate (mw-72)	24	2	10000	10000	10000	11000	11000	11000	11000	11000	11770
Sulfate (mw-73)	18	2	5070	5640	5700	7000	7350	7460	7630	7745	7949
DissolvedSolids (mw-62)	25	3	5120	5400	5400	5700	5900	5900	6060	6580	6700
DissolvedSolids (mw-63)	25	2	4140	4200	4300	4300	4500	4500	4560	4680	4700
DissolvedSolids (mw-64)	25	0	720	768	780	790	800	800	806	810	870.8
DissolvedSolids (mw-65)	25	2	874	940	960	1000	1100	1100	1220	1380	1476
DissolvedSolids (mw-71)	25	1	14000	15000	15000	15000	16000	16200	18200	19800	20760
DissolvedSolids (mw-72)	25	1	15400	16000	16000	16000	17000	17000	17000	17000	18520
DissolvedSolids (mw-73)	19	1	8360	9080	9400	11000	12000	12000	12000	12100	12820
Field_pH (mw-62)	27	1	6.41	6.46	6.48	6.59	6.695	6.708	6.822	6.907	7.273
Field_pH (mw-63)	27	0	6.572	6.662	6.68	6.78	6.865	6.878	6.964	7.058	7.174
Field_pH (mw-64)	25	0	7.29	7.306	7.36	7.45	7.53	7.54	7.606	7.634	7.67
Field_pH (mw-65)	27	0	7.072	7.106	7.13	7.19	7.33	7.358	7.44	7.514	8.075
Field_pH (mw-71)	26	0	6.585	6.64	6.66	6.77	6.845	6.86	6.95	7.03	7.558
Field_pH (mw-72)	26	0	6.515	6.62	6.63	6.68	6.81	6.84	6.88	6.92	7.515
Field_pH (mw-73)	20	0	6.489	6.508	6.525	6.645	6.7	6.708	6.767	6.836	6.927

General Statistics on Uncensored Data

Date/Time of Computation	ProUCL 5.13/9/2022 8:09:56 PM
User Selected Options	
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF

From File: UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Appendix B
Summary Statistics

User Selected Options

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Chloride (mw71_72_73)	66	6	66	0	0.00%	N/A	N/A	502	7305	85.47	0.17
Sulfate (mw71_72_73)	66	6	66	0	0.00%	N/A	N/A	9190	6643244	2577	0.28
olvedSolids (mw71_72_73)	69	3	69	0	0.00%	N/A	N/A	14338	9960324	3156	0.22
Field_pH (mw71_72_73)	72	0	72	0	0.00%	N/A	N/A	6.717	0.0532	0.231	0.0343

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Chloride (mw71_72_73)	66	6	290	750	502	495	7305	85.47	81.54	0.137	0.17
Sulfate (mw71_72_73)	66	6	610	14000	9190	10000	6643244	2577	1483	-0.839	0.28
olvedSolids (mw71_72_73)	69	3	6100	21000	14338	15000	9960324	3156	2965	-0.673	0.22
Field_pH (mw71_72_73)	72	0	6.17	7.73	6.717	6.69	0.0532	0.231	0.126	1.994	0.0343

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Chloride (mw71_72_73)	66	6	410	450	450	495	560	570	590	650	698
Sulfate (mw71_72_73)	66	6	5650	7100	7425	10000	11000	11000	11000	12750	14000
olvedSolids (mw71_72_73)	69	3	9580	11600	12000	15000	16000	17000	17000	18200	20320
Field_pH (mw71_72_73)	72	0	6.501	6.61	6.62	6.69	6.81	6.83	6.888	6.973	7.716

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.13/11/2022 12:59:28 PM

User Selected Options

From File UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_b.xls

Full Precision OFF

From File: UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_b.xls

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Boron (mw71_mw72)	50	2	50	0	0.00%	N/A	N/A	0.398	0.0328	0.181	0.455
Calcium (mw71_mw72)	50	2	50	0	0.00%	N/A	N/A	452.8	975.7	31.24	0.069

Appendix B
Summary Statistics

User Selected Options

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Boron (mw71_mw72)	50	2	0.16	0.73	0.398	0.35	0.0328	0.181	0.222	0.171	0.455
Calcium (mw71_mw72)	50	2	400	570	452.8	450	975.7	31.24	29.65	0.846	0.069

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Boron (mw71_mw72)	50	2	0.21	0.22	0.23	0.35	0.56	0.564	0.591	0.659	0.715
Calcium (mw71_mw72)	50	2	410	430	440	450	470	470	481	495.5	540.6

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.13/9/2022 8:14:38 PM

User Selected Options

From File UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_a.xls

Full Precision OFF

From File: UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_a.xls

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Boron (mw-73)	19	1	19	0	0.00%	N/A	N/A	1.679	0.014	0.118	0.0704
Calcium (mw-73)	19	1	19	0	0.00%	N/A	N/A	486.8	1156	34	0.0698

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Boron (mw-73)	19	1	1.6	2	1.679	1.6	0.014	0.118	0	1.581	0.0704
Calcium (mw-73)	19	1	420	550	486.8	480	1156	34	29.65	0.132	0.0698

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Boron (mw-73)	19	1	1.6	1.6	1.6	1.6	1.7	1.74	1.82	1.91	1.982

Appendix B
Summary Statistics

User Selected Options											
Calcium (mw-73)	19	1	450	460	460	480	510	514	532	541	548.2

Appendix B
Time Series Statistics

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/4/2022 7:00:55 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Boron-mw-62	
General Statistics	
Number of Events Reported (m)	28
Number of Missing Events	1
Number or Reported Events Used	27
Number Values Reported (n)	28
Number Values Missing	1
Number Values Used	27
Minimum	1.8
Maximum	2.5
Mean	2.085
Geometric Mean	2.077
Median	2.1
Standard Deviation	0.188
Coefficient of Variation	0.0899
Mann-Kendall Test	
M-K Test Value (S)	-28
Critical Value (0.05)	-1.645
Standard Deviation of S	46.88
Standardized Value of S	-0.576
Approximate p-value	0.282
Insufficient evidence to identify a significant trend at the specified level of significance.	
Boron-mw-63	
General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	1
Number or Reported Events Used	26

Appendix B
Time Series Statistics

Number Values Reported (n)	27
Number Values Missing	1
Number Values Used	26
Minimum	0.93
Maximum	2
Mean	1.578
Geometric Mean	1.555
Median	1.55
Standard Deviation	0.266
Coefficient of Variation	0.168
Mann-Kendall Test	
M-K Test Value (S)	-35
Critical Value (0.05)	-1.645
Standard Deviation of S	44.9
Standardized Value of S	-0.757
Approximate p-value	0.224
Insufficient evidence to identify a significant trend at the specified level of significance.	
Boron-mw-64	
General Statistics	
Number of Events Reported (m)	25
Number of Missing Events	0
Number or Reported Events Used	25
Number Values Reported (n)	25
Minimum	0.47
Maximum	0.67
Mean	0.583
Geometric Mean	0.58
Median	0.58
Standard Deviation	0.0595
Coefficient of Variation	0.102
Mann-Kendall Test	
M-K Test Value (S)	-102
Critical Value (0.05)	-1.645
Standard Deviation of S	42.54

Appendix B
Time Series Statistics

Standardized Value of S	-2.374
Approximate p-value	0.00879

Statistically significant evidence of a decreasing trend at the specified level of significance.

Boron-mw-65

General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	0
Number or Reported Events Used	27
Number Values Reported (n)	27
Minimum	0.57
Maximum	0.98
Mean	0.761
Geometric Mean	0.756
Median	0.76
Standard Deviation	0.0941
Coefficient of Variation	0.124

Mann-Kendall Test	
M-K Test Value (S)	-113
Critical Value (0.05)	-1.645
Standard Deviation of S	47.78
Standardized Value of S	-2.344
Approximate p-value	0.00954

Statistically significant evidence of a decreasing trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/4/2022 7:12:02 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Calcium-mw-62

Appendix B
Time Series Statistics

General Statistics	
Number of Events Reported (m)	28
Number of Missing Events	2
Number or Reported Events Used	26
Number Values Reported (n)	28
Number Values Missing	2
Number Values Used	26
Minimum	480
Maximum	590
Mean	530
Geometric Mean	529.3
Median	530
Standard Deviation	27.57
Coefficient of Variation	0.052
Mann-Kendall Test	
M-K Test Value (S)	14
Critical Value (0.05)	1.645
Standard Deviation of S	44.81
Standardized Value of S	0.29
Approximate p-value	0.386
Insufficient evidence to identify a significant trend at the specified level of significance.	
Calcium-mw-63	
General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	1
Number or Reported Events Used	26
Number Values Reported (n)	27
Number Values Missing	1
Number Values Used	26
Minimum	400
Maximum	580
Mean	516.5
Geometric Mean	514.7
Median	530

Appendix B
Time Series Statistics

Standard Deviation	42.8
Coefficient of Variation	0.0829
Mann-Kendall Test	
M-K Test Value (S)	73
Critical Value (0.05)	1.645
Standard Deviation of S	44.96
Standardized Value of S	1.602
Approximate p-value	0.0546
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Calcium-mw-64	
General Statistics	
Number of Events Reported (m)	25
Number of Missing Events	0
Number or Reported Events Used	25
Number Values Reported (n)	25
Minimum	72
Maximum	93
Mean	85.72
Geometric Mean	85.56
Median	87
Standard Deviation	5.224
Coefficient of Variation	0.0609
Mann-Kendall Test	
M-K Test Value (S)	-66
Critical Value (0.05)	-1.645
Standard Deviation of S	42.41
Standardized Value of S	-1.533
Approximate p-value	0.0627
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Calcium-mw-65	
General Statistics	

Appendix B
Time Series Statistics

Number of Events Reported (m)	27
Number of Missing Events	2
Number or Reported Events Used	25
Number Values Reported (n)	27
Number Values Missing	2
Number Values Used	25
Minimum	82
Maximum	170
Mean	107.7
Geometric Mean	106
Median	100
Standard Deviation	20.9
Coefficient of Variation	0.194
Mann-Kendall Test	
M-K Test Value (S)	-73
Critical Value (0.05)	-1.645
Standard Deviation of S	41.95
Standardized Value of S	-1.716
Approximate p-value	0.043
Statistically significant evidence of a decreasing trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/4/2022 7:49:47 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Chloride-mw-62	
General Statistics	
Number of Events Reported (m)	28
Number of Missing Events	5
Number or Reported Events Used	23
Number Values Reported (n)	28

Appendix B
Time Series Statistics

Number Values Missing	5
Number Values Used	23
Minimum	82
Maximum	180
Mean	123.5
Geometric Mean	122.1
Median	120
Standard Deviation	19.54
Coefficient of Variation	0.158
Mann-Kendall Test	
M-K Test Value (S)	-29
Critical Value (0.05)	-1.645
Standard Deviation of S	36.81
Standardized Value of S	-0.761
Approximate p-value	0.223
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Chloride-mw-63	
General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	4
Number or Reported Events Used	23
Number Values Reported (n)	27
Number Values Missing	4
Number Values Used	23
Minimum	77
Maximum	110
Mean	93.91
Geometric Mean	93.51
Median	97
Standard Deviation	8.749
Coefficient of Variation	0.0932
Mann-Kendall Test	
M-K Test Value (S)	-134
Critical Value (0.05)	-1.645

Appendix B
Time Series Statistics

Standard Deviation of S	37.57
Standardized Value of S	-3.54
Approximate p-value	1.9986E-4
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Chloride-mw-64	
General Statistics	
Number of Events Reported (m)	25
Number of Missing Events	2
Number or Reported Events Used	23
Number Values Reported (n)	25
Number Values Missing	2
Number Values Used	23
Minimum	44
Maximum	53
Mean	50.83
Geometric Mean	50.77
Median	52
Standard Deviation	2.329
Coefficient of Variation	0.0458
Mann-Kendall Test	
M-K Test Value (S)	14
Critical Value (0.05)	1.645
Standard Deviation of S	36.91
Standardized Value of S	0.352
Approximate p-value	0.362
Insufficient evidence to identify a significant trend at the specified level of significance.	
Chloride-mw-65	
General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	4
Number or Reported Events Used	23
Number Values Reported (n)	27

Appendix B
Time Series Statistics

Number Values Missing	4
Number Values Used	23
Minimum	48
Maximum	77
Mean	55.7
Geometric Mean	55.33
Median	53
Standard Deviation	7.009
Coefficient of Variation	0.126
Mann-Kendall Test	
M-K Test Value (S)	-38
Critical Value (0.05)	-1.645
Standard Deviation of S	37.35
Standardized Value of S	-0.991
Approximate p-value	0.161

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/4/2022 7:50:27 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Fluoride-mw-62

General Statistics	
Number of Events Reported (m)	28
Number of Missing Events	2
Number or Reported Events Used	26
Number Values Reported (n)	28
Number Values Missing	2
Number Values Used	26
Minimum	1.2
Maximum	3.3

Appendix B
Time Series Statistics

Mean	1.538
Geometric Mean	1.506
Median	1.5
Standard Deviation	0.392
Coefficient of Variation	0.255
Mann-Kendall Test	
M-K Test Value (S)	-3
Critical Value (0.05)	-1.645
Standard Deviation of S	43.81
Standardized Value of S	-0.0456
Approximate p-value	0.482
Insufficient evidence to identify a significant trend at the specified level of significance.	
Fluoride-mw-63	
General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	2
Number or Reported Events Used	25
Number Values Reported (n)	27
Number Values Missing	2
Number Values Used	25
Minimum	0.28
Maximum	2.5
Mean	1.883
Geometric Mean	1.794
Median	1.9
Standard Deviation	0.4
Coefficient of Variation	0.212
Mann-Kendall Test	
M-K Test Value (S)	-42
Critical Value (0.05)	-1.645
Standard Deviation of S	42.16
Standardized Value of S	-0.973
Approximate p-value	0.165

Appendix B
Time Series Statistics

Insufficient evidence to identify a significant trend at the specified level of significance.	
Fluoride-mw-64	
General Statistics	
Number of Events Reported (m)	25
Number of Missing Events	0
Number or Reported Events Used	25
Number Values Reported (n)	25
Minimum	1.3
Maximum	1.6
Mean	1.432
Geometric Mean	1.43
Median	1.4
Standard Deviation	0.0748
Coefficient of Variation	0.0523
Mann-Kendall Test	
M-K Test Value (S)	-7
Critical Value (0.05)	-1.645
Standard Deviation of S	39.05
Standardized Value of S	-0.154
Approximate p-value	0.439
Insufficient evidence to identify a significant trend at the specified level of significance.	
Fluoride-mw-65	
General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	2
Number or Reported Events Used	25
Number Values Reported (n)	27
Number Values Missing	2
Number Values Used	25
Minimum	1.5
Maximum	2.1
Mean	1.868
Geometric Mean	1.862

Appendix B
Time Series Statistics

Median	1.9
Standard Deviation	0.152
Coefficient of Variation	0.0814
Mann-Kendall Test	
M-K Test Value (S)	-38
Critical Value (0.05)	-1.645
Standard Deviation of S	41.32
Standardized Value of S	-0.895
Approximate p-value	0.185

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/4/2022 8:10:19 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Field_pH-mw-62

General Statistics	
Number of Events Reported (m)	28
Number of Missing Events	1
Number or Reported Events Used	27
Number Values Reported (n)	28
Number Values Missing	1
Number Values Used	27
Minimum	6.36
Maximum	7.4
Mean	6.62
Geometric Mean	6.616
Median	6.59
Standard Deviation	0.214
Coefficient of Variation	0.0323

Appendix B
Time Series Statistics

Mann-Kendall Test	
M-K Test Value (S)	-28
Critical Value (0.05)	-1.645
Standard Deviation of S	47.92
Standardized Value of S	-0.563
Approximate p-value	0.287
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Field_pH-mw-63	
General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	0
Number or Reported Events Used	27
Number Values Reported (n)	27
Minimum	6.53
Maximum	7.21
Mean	6.779
Geometric Mean	6.777
Median	6.78
Standard Deviation	0.161
Coefficient of Variation	0.0238
Mann-Kendall Test	
M-K Test Value (S)	-60
Critical Value (0.05)	-1.645
Standard Deviation of S	47.94
Standardized Value of S	-1.231
Approximate p-value	0.109
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Field_pH-mw-64	
General Statistics	
Number of Events Reported (m)	25
Number of Missing Events	0
Number or Reported Events Used	25

Appendix B
Time Series Statistics

Number Values Reported (n)	25
Minimum	7.22
Maximum	7.68
Mean	7.445
Geometric Mean	7.444
Median	7.45
Standard Deviation	0.124
Coefficient of Variation	0.0166
Mann-Kendall Test	
M-K Test Value (S)	-88
Critical Value (0.05)	-1.645
Standard Deviation of S	42.69
Standardized Value of S	-2.038
Approximate p-value	0.0208
Statistically significant evidence of a decreasing	
trend at the specified level of significance.	
Field_pH-mw-65	
General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	0
Number or Reported Events Used	27
Number Values Reported (n)	27
Minimum	6.96
Maximum	8.27
Mean	7.254
Geometric Mean	7.25
Median	7.19
Standard Deviation	0.244
Coefficient of Variation	0.0337
Mann-Kendall Test	
M-K Test Value (S)	-70
Critical Value (0.05)	-1.645
Standard Deviation of S	47.92
Standardized Value of S	-1.44
Approximate p-value	0.0749

Appendix B
Time Series Statistics

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/4/2022 7:53:33 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Sulfate-mw-62

General Statistics	
Number of Events Reported (m)	28
Number of Missing Events	5
Number or Reported Events Used	23
Number Values Reported (n)	28
Number Values Missing	5
Number Values Used	23
Minimum	2800
Maximum	4000
Mean	3391
Geometric Mean	3384
Median	3300
Standard Deviation	229.5
Coefficient of Variation	0.0677

Mann-Kendall Test	
M-K Test Value (S)	32
Critical Value (0.05)	1.645
Standard Deviation of S	36.43
Standardized Value of S	0.851
Approximate p-value	0.197

Insufficient evidence to identify a significant trend at the specified level of significance.

Sulfate-mw-63

Appendix B
Time Series Statistics

General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	4
Number or Reported Events Used	23
Number Values Reported (n)	27
Number Values Missing	4
Number Values Used	23
Minimum	1900
Maximum	4300
Mean	2704
Geometric Mean	2676
Median	2700
Standard Deviation	429
Coefficient of Variation	0.159
Mann-Kendall Test	
M-K Test Value (S)	-36
Critical Value (0.05)	-1.645
Standard Deviation of S	37.17
Standardized Value of S	-0.942
Approximate p-value	0.173
Insufficient evidence to identify a significant trend at the specified level of significance.	
Sulfate-mw-64	
General Statistics	
Number of Events Reported (m)	25
Number of Missing Events	2
Number or Reported Events Used	23
Number Values Reported (n)	25
Number Values Missing	2
Number Values Used	23
Minimum	270
Maximum	870
Mean	363.5
Geometric Mean	352.9
Median	350

Appendix B
Time Series Statistics

Standard Deviation	115.3
Coefficient of Variation	0.317
Mann-Kendall Test	
M-K Test Value (S)	-19
Critical Value (0.05)	-1.645
Standard Deviation of S	37.61
Standardized Value of S	-0.479
Approximate p-value	0.316
Insufficient evidence to identify a significant trend at the specified level of significance.	
Sulfate-mw-65	
General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	4
Number or Reported Events Used	23
Number Values Reported (n)	27
Number Values Missing	4
Number Values Used	23
Minimum	350
Maximum	790
Mean	483.9
Geometric Mean	473.6
Median	460
Standard Deviation	112.3
Coefficient of Variation	0.232
Mann-Kendall Test	
M-K Test Value (S)	-38
Critical Value (0.05)	-1.645
Standard Deviation of S	37.73
Standardized Value of S	-0.981
Approximate p-value	0.163
Insufficient evidence to identify a significant trend at the specified level of significance.	

Appendix B
Time Series Statistics

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/4/2022 8:02:21 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

DissolvedSolids-mw-62

General Statistics	
Number of Events Reported (m)	28
Number of Missing Events	3
Number or Reported Events Used	25
Number Values Reported (n)	28
Number Values Missing	3
Number Values Used	25
Minimum	2400
Maximum	6700
Mean	5572
Geometric Mean	5495
Median	5700
Standard Deviation	789.3
Coefficient of Variation	0.142

Mann-Kendall Test	
M-K Test Value (S)	-74
Critical Value (0.05)	-1.645
Standard Deviation of S	42.55
Standardized Value of S	-1.716
Approximate p-value	0.0431

Statistically significant evidence of a decreasing trend at the specified level of significance.

DissolvedSolids-mw-63

General Statistics	
Number of Events Reported (m)	27

Appendix B
Time Series Statistics

Number of Missing Events	2
Number or Reported Events Used	25
Number Values Reported (n)	27
Number Values Missing	2
Number Values Used	25
Minimum	3200
Maximum	4700
Mean	4308
Geometric Mean	4295
Median	4300
Standard Deviation	317.4
Coefficient of Variation	0.0737
Mann-Kendall Test	
M-K Test Value (S)	-81
Critical Value (0.05)	-1.645
Standard Deviation of S	41.94
Standardized Value of S	-1.907
Approximate p-value	0.0282
Statistically significant evidence of a decreasing trend at the specified level of significance.	
DissolvedSolids-mw-64	
General Statistics	
Number of Events Reported (m)	25
Number of Missing Events	0
Number or Reported Events Used	25
Number Values Reported (n)	25
Minimum	660
Maximum	890
Mean	778.4
Geometric Mean	777.1
Median	790
Standard Deviation	44.88
Coefficient of Variation	0.0577
Mann-Kendall Test	
M-K Test Value (S)	-108

Appendix B
Time Series Statistics

Critical Value (0.05)	-1.645
Standard Deviation of S	41.82
Standardized Value of S	-2.559
Approximate p-value	0.00525

Statistically significant evidence of a decreasing trend at the specified level of significance.

DissolvedSolids-mw-65

General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	2
Number or Reported Events Used	25
Number Values Reported (n)	27
Number Values Missing	2
Number Values Used	25
Minimum	540
Maximum	1500
Mean	1018
Geometric Mean	1001
Median	1000
Standard Deviation	186.3
Coefficient of Variation	0.183

Mann-Kendall Test	
M-K Test Value (S)	-168
Critical Value (0.05)	-1.645
Standard Deviation of S	41.92
Standardized Value of S	-3.984
Approximate p-value	3.3922E-5

Statistically significant evidence of a decreasing trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/11/2022 1:01:25 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_b.xls
Full Precision	OFF
Confidence Coefficient	0.95

Appendix B
Time Series Statistics

Level of Significance	0.05
Boron-mw71_mw72	
General Statistics	
Number of Events Reported (m)	52
Number of Missing Events	2
Number or Reported Events Used	50
Number Values Reported (n)	52
Number Values Missing	2
Number Values Used	50
Minimum	0.16
Maximum	0.73
Mean	0.398
Geometric Mean	0.357
Median	0.35
Standard Deviation	0.181
Coefficient of Variation	0.455
Mann-Kendall Test	
M-K Test Value (S)	-27
Critical Value (0.05)	-1.645
Standard Deviation of S	119.1
Standardized Value of S	-0.218
Approximate p-value	0.414
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/9/2022 8:33:27 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Boron-mw-73	

Appendix B
Time Series Statistics

General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	1
Number or Reported Events Used	19
Number Values Reported (n)	20
Number Values Missing	1
Number Values Used	19
Minimum	1.6
Maximum	2
Mean	1.679
Geometric Mean	1.675
Median	1.6
Standard Deviation	0.118
Coefficient of Variation	0.0704
Mann-Kendall Test	
M-K Test Value (S)	-7
Tabulated p-value	0.418
Standard Deviation of S	25.34
Standardized Value of S	-0.237
Approximate p-value	0.406

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/9/2022 8:33:40 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Calcium-mw-73

General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	1
Number or Reported Events Used	19

Appendix B
Time Series Statistics

Number Values Reported (n)	20
Number Values Missing	1
Number Values Used	19
Minimum	420
Maximum	550
Mean	486.8
Geometric Mean	485.7
Median	480
Standard Deviation	34
Coefficient of Variation	0.0698
Mann-Kendall Test	
M-K Test Value (S)	-10
Tabulated p-value	0.365
Standard Deviation of S	28.4
Standardized Value of S	-0.317
Approximate p-value	0.376

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/11/2022 1:09:08 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Chloride-mw71_72_73

General Statistics	
Number of Events Reported (m)	72
Number of Missing Events	6
Number or Reported Events Used	66
Number Values Reported (n)	72
Number Values Missing	6
Number Values Used	66
Minimum	290

Appendix B
Time Series Statistics

Maximum	750
Mean	502
Geometric Mean	494.6
Median	495
Standard Deviation	85.47
Coefficient of Variation	0.17
Mann-Kendall Test	
M-K Test Value (S)	-224
Critical Value (0.05)	-1.645
Standard Deviation of S	180
Standardized Value of S	-1.239
Approximate p-value	0.108

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/11/2022 1:16:47 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Field_pH-mw71_72_73

General Statistics	
Number of Events Reported (m)	72
Number of Missing Events	0
Number or Reported Events Used	72
Number Values Reported (n)	72
Minimum	6.17
Maximum	7.73
Mean	6.717
Geometric Mean	6.713
Median	6.69
Standard Deviation	0.231
Coefficient of Variation	0.0343

Appendix B
Time Series Statistics

Mann-Kendall Test	
M-K Test Value (S)	-182
Critical Value (0.05)	-1.645
Standard Deviation of S	205.6
Standardized Value of S	-0.88
Approximate p-value	0.189

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/9/2022 8:25:58 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Sulfate-mw71_72_73

General Statistics	
Number of Events Reported (m)	72
Number of Missing Events	6
Number or Reported Events Used	66
Number Values Reported (n)	72
Number Values Missing	6
Number Values Used	66
Minimum	610
Maximum	14000
Mean	9190
Geometric Mean	8616
Median	10000
Standard Deviation	2577
Coefficient of Variation	0.28
Mann-Kendall Test	
M-K Test Value (S)	40
Critical Value (0.05)	1.645

Appendix B
Time Series Statistics

Standard Deviation of S	178.1
Standardized Value of S	0.219
Approximate p-value	0.413

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/11/2022 1:14:50 PM
From File	UploadCWTP_StatsAnalysis_DataFile_Feb2022_20220304.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

DissolvedSolids-mw71_72_73

General Statistics	
Number of Events Reported (m)	72
Number of Missing Events	3
Number or Reported Events Used	69
Number Values Reported (n)	72
Number Values Missing	3
Number Values Used	69
Minimum	6100
Maximum	21000
Mean	14338
Geometric Mean	13933
Median	15000
Standard Deviation	3156
Coefficient of Variation	0.22

Mann-Kendall Test	
M-K Test Value (S)	-310
Critical Value (0.05)	-1.645
Standard Deviation of S	190.6
Standardized Value of S	-1.622
Approximate p-value	0.0525

Appendix B
Time Series Statistics

Insufficient evidence to identify a significant							
trend at the specified level of significance.							

APPENDIX

M

CCR GROUNDWATER DETECTION MONITORING STATISTICAL ANALYSIS AND RESULTS FOR THE CWTP APPENDIX III CONSTITUENT DATA COLLECTED THROUGH MAY 2022

Confidential

TECHNICAL MEMORANDUM

To:	Arizona Public Service Company	**Project No.**	14-2022-2006

By:	Samantha O'Shea	**Reviewed by:**	Maren Henley, PE
Tel:	602-733-6000	**CC:**	File
Date:	October 10, 2022		
Re:	**CCR GROUNDWATER DETECTION MONITORING STATISTICAL ANALYSIS AND RESULTS FOR THE CWTP APPENDIX III CONSTITUENT DATA COLLECTED THROUGH AUGUST 2022 Arizona Public Service Company Four Corners Power Plant – Fruitland, New Mexico**		

Please be advised that, effective September 21, 2022, Wood Environment & Infrastructure Solutions, Inc. was acquired by WSP. due to the acquisition, we have changed our name to WSP USA Environment & Infrastructure Inc. no other aspects of our legal entity or capabilities have changed for this report, including our Federal Tax ID which remains 91-1641772. correspondence for this report should continue to be addressed to the undersigned.

1.0 INTRODUCTION

This Technical Memorandum presents the results of a statistical evaluation of groundwater monitoring data collected from monitoring wells downgradient of the Combined Waste Treatment Pond (CWTP) located at the Arizona Public Service Company (APS) Four Corners Power Plant (Site) in Fruitland, New Mexico. The statistical evaluation was performed by Geosciences Consulting Strategies, LLC (Geosciences Consulting), a subcontractor to Wood Environment and Infrastructure Solutions Inc. (Wood) pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Sections 257.90 through 257.98 (CCR Rule) (Federal Register, 2020).

The CWTP is a Site CCR unit that is currently in the detection monitoring program. The CCR Rule requires evaluation on an ongoing semiannual basis of Appendix III constituent data collected from CWTP downgradient wells to determine if a statistically significant increase (SSI) over background threshold values (BTVs) has occurred. The statistical evaluation documented herein incorporates Appendix III constituent data collected from CWTP downgradient compliance wells MW-62, MW-63, MW-64, and MW-65 and CWTP background wells MW-71, MW-72, and MW-73 during the May 2022 semiannual sampling event and a August 2022 resampling event.

To address an initial exceedance of the pH and boron BTV at MW-65 and MW-63 in May 2022, respectively. In accordance with the Statistical Data Analysis Workplan (SDAWP) developed for the Site and the US EPA's Unified Guidance (Wood, 2020; USEPA 2009), resampling of both wells was implemented in August 2022. The August 2022 resampling event confirmed that the initial May 2022 boron and pH exceedances

were statistically insignificant. Further details of the initial May 2022 exceedances, and statistical findings are presented in Section 2.0 below.

2.0 STATISTICAL EVALUATION RESULTS

Attachment A presents the statistical evaluation performed by Geosciences Consulting. The results of the evaluation are summarized as follows:

- Table 1 of Attachment A presents interwell BTVs for the CWTP which were updated in April 2022 pursuant to recommendations in the January 2022 Alternative Source Demonstration (Wood, 2022). Table 2 of Attachment A presents the downgradient sample data summary.
- In May 2022, an initial boron detection of 0.85 mg/L exceeded the then boron BTV of 0.70 mg/L at MW-65; this exceedance triggered a 1 of 2 resampling strategy for this constituent and monitoring location. This was the highest detection observed at this location since 2017 and the August 2022 resample resulted in a detection of 0.61 mg/L which does not exceed the boron BTV of 0.73 mg/L, therefore the initial exceedance is found to be statistically insignificant and inconsistent with previous detections at this location.
- In May 2022, an initial pH concentration of 7.09 standard units (SU) exceeded the pH BTV range of 6.5 to 6.9 mg/L at MW-63; this exceedance triggered a 1 of 2 resampling strategy for this constituent at this monitoring location. The August 2022 resample resulted in a pH concentration of 6.88 SU, consistent with the November 2021 concentration which does not exceed the pH BTV, therefore the initial exceedance is found to be statistically insignificant.
- There are currently no SSIs over BTVs for Appendix III constituents at the CWTP downgradient wells.
- A statistically significant decreasing temporal trend is evident for chloride and TDS at MW-63; boron, calcium, and TDS at MW-64; and boron and TDS at MW-65.
    - The previously evident decreasing temporal trend for TDS at MW-62 and pH at MW-64 are no longer statistically significant.

3.0 RECOMMENDATIONS

Based on the statistical evaluation presented in Attachment A and pursuant to the CCR Rule, continuation of detection monitoring at a semiannual frequency for Appendix III constituents at the CWTP is warranted as there are no SSIs over current Appendix III BTVs. Wood recommends continued trend testing after each monitoring event and updates to the statistical method selection and BTVs after 1-2 years of future sampling events.

4.0 REFERENCES

Federal Register, 2020. 40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments issued through November 12, 2020.

United States Environmental Protection Agency (USEPA), 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

Wood, 2020. Statistical Data Analysis Work Plan. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Four Corners Power Plan, Fruitland, New Mexico. Prepared for Arizona Public Service. June 2020.

ATTACHMENT A

DETECTION MONITORING STATISTICAL EVALUATION OF CWTP –

GEOSCIENCE CONSULTING STRATERGIES LLC

Technical Memorandum

To: Maren Henley, PE
Wood Environment & Infrastructure Solutions, Inc.

From: Carla Landrum, PhD
Geoscience Consulting Strategies LLC

Date: September 12, 2022

Subject: **CCR Groundwater Semiannual Detection Monitoring**
Statistical Evaluation of CWTP Data through August 2022
Arizona Public Service Company Four Corners Power Plant – Fruitland, New Mexico

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) documents the statistical evaluation of detection monitoring (i.e., Appendix III constituents) groundwater data associated with the Combined Waste Treatment Pond (CWTP) unit located at the Arizona Public Service Company (APS) Four Corners Power Plant (FCPP) in Fruitland, New Mexico. This routine statistical evaluation is completed by Geoscience Consulting Strategies LLC in accordance with the Statistical Data Analysis Work Plan (SDAWP) for the FCPP and the Coal Combustion Residuals (CCR) Rule (Federal Register, 2020; Wood Environment & Infrastructure Solutions, Inc. [Wood], 2020).

This statistical evaluation incorporates the CWTP May 2022 semiannual detection monitoring results and any corresponding resample events, as necessary. Following is a summary of the statistical evaluation of the May 2022 CWTP detection monitoring groundwater data. The following sections present data inputs, statistical methods, results and conclusions.

2.0 DATA INPUTS

The CWTP groundwater monitoring well network consists of three background monitoring wells (MW-71, MW-72, and MW-73) and four compliance (i.e., downgradient), monitoring wells (MW-62, MW-63, MW-64 and MW-65).

The CWTP detection monitoring program performs statistical evaluations semiannually. The period of evaluation for this subject analysis ranges from November 2015 through May 2022 and includes:

1) the minimum of eight initial, or baseline, sampling rounds required by the CCR Rule and nine subsequent sampling rounds of detection monitoring that occur on a semi-annual frequency; and

2) an August 2022 resampling event to confirm initial exceedance declarations in May 2022 for field pH at MW-63 and boron at MW-65 (see Table 2).

Due principally to the CCR Rule requirement that a minimum of eight initial rounds of data be collected from the site prior to October 17, 2017, the frequency of sample collection prior to this date is short and variable (e.g., biweekly to quarterly sampling).

This statistical data evaluation includes 24 to 29 sample results for boron, calcium, chloride, fluoride, sulfate, total dissolved solids (TDS), and field pH at each compliance monitoring well. The CWTP detection monitoring program consists of ten sampling rounds occurring between November 2017 and May 2022:

CWTP Sampling Round	Date
1st	November 2017
2nd	June 2018
3rd	November 2018
4th	May 2019
5th	December 2019
6th	June 2020
7th	November 2020
8th	April 2021
9th	November 2021
10th	May 2022

All Appendix III constituents were evaluated during these monitoring events except for chloride and sulfate in May 2019 due to the inadvertent exclusion of these analytes on the Chain of Custody in the field.

Appendix A contains the contents of the ProUCLdata upload tables for the subject analysis. Data inputs for this statistical analysis were prepared, and provided by, Wood. The Appendix III analytes are listed by name or chemical symbol as column headers in the ProUCL data upload table. By ProUCL convention (US EPA, 2015), each analyte has a corresponding data column (indicated with a "D_" prefix) that indicates if the analyte was detected or not at a concentration that exceeds the analytical reporting limit, where detectable concentrations are symbolized by a "1" and non-detectable concentrations are symbolized by a "0." The detection frequency is 100% for all compliance well sample data listed in Appendix A.

3.0 METHODS

This statistical analysis follows the statistical methods and approaches put forth in the FCPP SDAWP and the United States Environmental Protection Agency (US EPA) Unified Guidance (2009). The subject statistical analysis consists of: 1) exploratory data analysis (EDA), including outlier analysis, calculating summary statistics, temporal trend analysis and fitting a statistical distribution model (i.e., Goodness-of-Fit Test Statistics) to sample populations and 2) comparing the May 2022 sample concentrations to corresponding not-to-exceed BTVs in Table 1. If an exceedance exists, the statistical significance of this exceedance is assessed through the prescribed resampling strategy. For this statistical analysis, the August 2022 resampling event fulfills the 1 of 2 resampling strategy for field pH MW-63 and the 1 of 2 resampling strategy for boron at MW-65.

4.0 RESULTS

Table 2 summarizes: 1) Appendix III constituent concentrations relative to their respective BTV for each compliance well and 2) which constituents exhibit statistically significant ($p<0.05$) temporal trends.

Appendix B includes the EDA results.

This statistical analysis results in the following:

Monitoring Well MW-62. The Appendix III sample concentrations for boron, calcium, chloride, fluoride, sulfate, field pH and TDS fall below or within their respective BTVs for the May 2022 sampling event.

The decreasing temporal trend for TDS at this monitoring location is no longer statistically significant ($p<0.05$).

Monitoring Well MW-63. As shown in Table 2, the May 2022 sampling event shows an initial exceedance for field pH at this monitoring location. The resampling event in August 2022 confirms the initial exceedance for field pH is statistically insignificant ($p<0.05$). The remaining Appendix III sample concentrations for boron, calcium, chloride, fluoride, sulfate and TDS fall below their respective BTVs for the May 2022 sampling event.

There are persistent and statistically significant ($p<0.05$) decreasing trends for chloride and TDS at this monitoring location.

Monitoring Well MW-64. The Appendix III sample concentrations for boron, calcium, chloride, fluoride, sulfate, field pH and TDS fall below or within their respective BTVs for the May 2022 sampling event.

There are statistically significant ($p<0.05$) decreasing trends for boron, calcium and TDS at this monitoring location. The decreasing trend for field pH at this monitoring location is no longer statistically significant ($p<0.05$). The decreasing trends for boron and TDS are persistent at this monitoring location.

Monitoring Well MW-65. As shown in Table 2, the May 2022 sampling event at this monitoring location shows an initial exceedance for boron. The August 2022 resampling event demonstrates the May 2022 exceedance is statistically insignificant ($p<0.05$). The remaining Appendix III sample concentrations for calcium, chloride, fluoride, sulfate, field pH and TDS fall below or within their respective BTVs for the May 2022 sampling event.

There are persistent and statistically significant ($p<0.05$) decreasing trends for TDS and boron at this sampling location.

5.0 RECOMMENDATIONS

The CWTP should continue Detection Monitoring in accordance with 40 Code of Federal Regulations Section 257.94 (Federal Register, 2020).

6.0 REFERENCES

Federal Register, 2020. 40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated at 80 FR 21468 on April 17, 2015 with amendments issued through November 12, 2020 at 85 FR 72539 (A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments).

United States Environmental Protection Agency (US EPA), 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

US EPA, 2015. ProUCL (Version 5.1.1) User Guide, Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations. EPA/600/R-07/041. Washington D.C. October 2015.

Wood, 2020. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Four Corners Power Plan, Fruitland, New Mexico. Prepared for Arizona Public Service. June 2020.

ATTACHMENTS

Table 1 – Interwell and Intrawell BTVs for the Four Corners CWTP
Table 2 – CWTP Downgradient Sample Data Summary

Appendix A – ProUCL Data Upload Table
Appendix B – ProUCL EDA Output Files

TABLES

Table 1
Interwell and Intrawell BTVs for the Four Corners CWTP
Appendix III Statistical Analysis

Interwell	Dates Corresponding to Data Used to Derive UPL	Constituent	Interwell UPL (BTV Calculation Method)	Units	Resampling Strategy[1]
MW-71 and MW-72	3/5/2016-11/12/2021	Boron	0.73 (NP-UPL)[2]	mg/L	1 of 2
MW-73	2/2/2017-11/13/2021	Boron	2.0 (NP-UPL)[3]	mg/L	1 of 2
MW-71 and MW-72	3/5/2016-11/12/2021	Calcium	486 (P-UPL)[2]	mg/L	1 of 2
MW-73	2/2/2017-11/13/2021	Calcium	536 (P-UPL)[3]	mg/L	1 of 2
MW-71, MW-72, and MW-73	3/5/2016-11/13/2021	Chloride	631 (P-UPL)	mg/L	1 of 2
MW-71, MW-72, and MW-73	3/5/2016-11/13/2021	pH (upper limit)	6.90 (P-UPL)[3]	SU	1 of 2
MW-71, MW-72, and MW-73	3/5/2016-11/13/2021	pH (lower limit)	6.5 (P-LPL)[3]	SU	1 of 2
MW-71, MW-72, and MW-73	3/5/2016-11/13/2021	Sulfate	13,000 (NP-UPL)	mg/L	1 of 3
MW-71, MW-72, and MW-73	3/5/2016-11/13/2021	TDS	20,000 (NP-UPL)	mg/L	1 of 3

Intrawell	Dates Corresponding to Data Used to Derive UPL	Constituent	Intrawell UPL (BTV Calculation Method[1])	Units	Resampling Strategy[1]
MW-62	11/9/2015-11/15/2021	Fluoride	1.8 (NP-UPL)	mg/L	1 of 3
MW-63	11/4/2015-11/15/2021	Fluoride	2.3 (P-UPL)	mg/L	1 of 2
MW-64	11/5/2015-11/15/2021	Fluoride	1.6 (NP-UPL)	mg/L	1 of 3
MW-64	11/5/2015-11/15/2021	pH	7.66 (P-UPL)	SU	1 of 2
MW-64	11/5/2015-11/15/2021	pH	7.23 (P-LPL)	SU	1 of 2
MW-65	11/5/2015-11/15/2021	Fluoride	2.1 (NP-UPL)	mg/L	1 of 3
MW-65	11/5/2015-11/15/2021	pH	7.45 (P-UPL)	SU	1 of 2
MW-65	11/5/2015-11/15/2021	pH	6.98 (P-LPL)	SU	1 of 2

Notes:

BTV = background threshold value
CWTP = Combined Waste Treatment Pond
LPL = Lower Prediction Limit
mg/L = milligrams per liter
NP = Non Parametric
P = Parametric
SU = standard units
UPL = Upper Prediction Limit

[1] Resampling strategies are chosen based on acceptance of the sitewide false positive error rate and the effective power of the test.

[2] Only applicable to MW-64 and MW-65

[3] Only applicable to MW-62 and MW-63

Table 2
Four Corners CWTP Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampleDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
MW-62	FC-CCR-MW62-110915	11/9/2015	2.1	520	150	1.6	6.63	3600	6700
MW-62	FC-CCR-MW-62-042716	4/27/2016	2.0	530	150	1.6	6.77	3200	6100
MW-62	FC-CCR-MW62-616	6/5/2016	2.0	510	140	1.5	6.50	3300	5900
MW-62	FC-CCR-MW62-816	8/20/2016	2.3	530	120	1.5	7.40	3300	5800
MW-62	FC-CCR-MW62-916	9/12/2016	2.5	570	130	1.5	6.73	3300	2400
MW-62	FC-CCR-MW62-1016	10/19/2016	2.2	480	120	1.2	6.57	3300	6000
MW-62	FC-CCR-MW62-117	2/1/2017	2.1	510	110		6.68	3400	5600
MW-62	FC-CCR-MW62-41617	4/16/2017	1.9	500	120	1.2	6.64	3300	5900
MW-62	FC-CCR-MW62-5117	5/1/2017	1.9	520	110	3.3	6.64	3800	5800
MW-62	FC-CCR-MW62-52917	5/29/2017	1.9	570	120	1.2	6.50	3500	5500
MW-62	FC-CCR-MW62-62117	6/21/2017	1.9	520	120	1.4	6.54	3600	5700
MW-62	FC-CCR-MW62-72117	07/21/2017	2.1	540	99	1.5	6.69	3300	5400
MW-62	FC-CCR-MW62-8917	08/09/2017	2.2	540	110	1.4	6.41	3400	5400
MW-62	FC-CCR-MW62-81617	08/16/2017	2.1	590	110	1.6	6.36	3200	5400
MW-62	FC-CCR-MW62-9917	09/09/2017	2.3	570	120	1.5	6.41	3300	5500
MW-62	FC-CCR-MW62-101317	10/13/2017	2.2	520	130	1.5	6.46	3300	5600
MW-62	FC-CCR-MW62-113017	11/30/2017	2.3	570	130	1.4	6.43	3400	5900
MW-62	FC-CCR-MW62-4618	04/06/2018	2.1	520	--	--	6.70	--	--
MW-62	FC-CCR-MW-62-6318	06/03/2018	1.8	490	120	1.6	6.59	3500	5900
MW-62	FC-CCR-MW62-11218	11/02/2018	2.4	550	110	1.5	6.46	3300	5600
MW-62	FC-CCR-MW62-5719-01	05/07/2019	1.8	540	--	1.4	6.65	--	5800
MW-62	FC-CCR-MW62-120319	12/03/2019	2.1	530	--	1.5	6.37	--	5000
MW-62	FC-CCR-MW62-0620	06/19/2020	1.9	490	82	1.8	7	2800	4700
MW-62	FC-CCR-MW62-011421	11/05/2020	2.1	510	130	1.8	6.57	3500	5300
MW-62	FC-CCR-MW62-011421	01/14/2021	--	--	--	1.2	--	--	--
MW-62	FC-CCR-MW62-0421	04/22/2021	1.9	530	130	1.5	6.91	3400	5700
MW-62	FC-CCR-MW62-1121	11/15/2021	2.3	530	180	1.4	6.51	4000	6700
MW-62	FC-CCR-MW62-0222	02/09/2022	1.9	--	--	--	6.71	--	--
MW-62	FC-CCR-MW62-0522	5/20/2022	1.8	500	180	1.4	6.89	3400	6000
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		Updated BTV or Intrawell UPL [1,2]:	***2.0***	***536***	***631***	***1.8***	***6.90/6.50***	***13,000***	***20,000***
		Temporal Trend [3]:	*None*	*None*	*None*	*None*	*None*	*None*	*None*

Table 2
Four Corners CWTP Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampleDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
MW-63	FC-CCR-MW63-110415	11/4/2015	1.6	420	77	2.4	6.86	2800	4100
MW-63	FC-CCR-MW-63-042716	4/27/2016	1.3	500	100	2.0	6.88	2300	4300
MW-63	FC-CCR-MW63-616	6/5/2016	1.4	500	110	1.9	6.70	2500	4400
MW-63	FC-CCR-MW63-816	8/20/2016	1.9	530	98	1.9	6.92	2800	4700
MW-63	FC-CCR-MW63-916	9/12/2016	2.0	550	110	2.1	7.03	2800	4700
MW-63	FC-CCR-MW63-1016	10/19/2016	1.7	470	100	1.8	6.82	2700	4500
MW-63	FC-CCR-MW63-117	1/31/2017	1.4	510	95	2.0	6.67	2600	4200
MW-63	FC-CCR-MW63-41717	4/17/2017	1.4	520	98	1.6	6.78	2600	4400
MW-63	FC-CCR-MW63-5217	5/2/2017	1.4	510	92	2.5	6.79	4300	4300
MW-63	FC-CCR-MW63-52817	5/28/2017	1.5	550	98	1.6	6.80	2700	4300
MW-63	FC-CCR-MW63-62117	6/21/2017	1.6	520	100	1.9	6.78	2900	4400
MW-63	FC-CCR-MW63-72117	7/21/2017	1.8	530	98	2.0	6.87	2900	4600
MW-63	FC-CCR-MW63-8917	8/9/2017	1.9	530	97	1.9	6.56	2900	4500
MW-63	FC-CCR-MW63-81617	8/16/2017	1.8	580	100	2.1	6.53	2700	4500
MW-63	FC-CCR-MW63-9917	9/9/2017	2.0	540	97	2.0	6.83	2700	4300
MW-63	FC-CCR-MW63-101317	10/13/2017	1.8	500	90	2.0	6.69	2700	4300
MW-63	FC-CCR-MW63-113017	11/30/2017	1.7	560	91	1.8	6.72	2700	4500
MW-63	FC-CCR-MW63-4618	4/6/2018	1.3	530	--	--	6.75	--	--
MW-63	FC-CCR-MW-63-6318	6/3/2018	1.4	510	90	1.7	6.76	2600	4500
MW-63	FC-CCR-MW63-112818	11/2/2018	1.9	550	88	1.9	6.66	2800	4300
MW-63	FC-CCR-MW63-5719-02	5/7/2019	1.3	540	--	1.6	6.63	--	4400
MW-63	FC-CCR-MW63-120319	12/3/2019	1.6	550	--	1.8	6.58	--	4300
MW-63	FC-CCR-MW63-0620	06/19/2020	1.5	540	77	2.1	6.53	2400	4200
MW-63	FC-CCR-MW63-1120	11/05/2020	1.7	550	85	2.2	6.72	2800	4200
MW-63	FC-CCR-MW63-0421	04/22/2021	0.93	400	88	2	7.07	1900	3200
MW-63	FC-CCR-MW63-0721	07/08/2021	--	--	--	--	7.21	--	--
MW-63	FC-CCR-MW63-1121	11/15/2021	1.3	440	81	0.28	6.89	2100	3600
MW-63	FC-CCR-MW63-0522	5/20/2022	0.83	310	93	2.1	**7.09**	1500	2500
MW-63	FC-CCR-MW63-0822	8/14/2022	--	--	--	--	6.88	--	--
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		Updated BTV or Intrawell UPL [1,2]:	***2.0***	***536***	***631***	***2.3***	***6.90/6.50***	***13,000***	***20,000***
		Temporal Trend [3]:	*None*	*None*	*Decreasing*	*None*	*None*	*None*	*Decreasing*

Table 2
Four Corners CWTP Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampleDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
MW-64	FC-CCR-MW64-110515	11/5/2015	0.6	87	49	1.5	7.64	320	780
MW-64	FC-CCR-MW-64-042716	4/27/2016	0.62	90	53	1.4	7.50	340	810
MW-64	FC-CCR-MW64-616	6/5/2016	0.58	86	52	1.4	7.29	350	800
MW-64	FC-CCR-MW64-816	8/20/2016	0.65	89	46	1.3	7.68	330	790
MW-64	FC-CCR-MW64-916	9/12/2016	0.67	90	52	1.5	7.54	320	790
MW-64	FC-CCR-MW64-1016	10/19/2016	0.64	83	53	1.5	7.52	330	790
MW-64	FC-CCR-MW64-117	1/31/2017	0.61	85	48	1.4	7.38	340	800
MW-64	FC-CCR-MW64-41717	4/17/2017	0.58	85	51	1.4	7.53	870	800
MW-64	FC-CCR-MW64-5217	5/2/2017	0.55	86	44	1.3	7.47	340	780
MW-64	FC-CCR-MW64-52817	5/28/2017	0.55	93	51	1.5	7.45	380	780
MW-64	FC-CCR-MW64-62117	6/21/2017	0.55	86	51	1.4	7.50	390	770
MW-64	FC-CCR-MW64-72117	7/21/2017	0.59	88	52	1.5	7.61	370	790
MW-64	FC-CCR-MW64-8917	8/9/2017	0.61	89	52	1.5	7.31	380	890
MW-64	FC-CCR-MW64-81617	8/16/2017	0.58	89	53	1.5	7.29	360	790
MW-64	FC-CCR-MW64-9917	9/9/2017	0.67	90	53	1.5	7.36	350	810
MW-64	FC-CCR-MW64-101317	10/13/2017	0.62	82	52	1.4	7.42	360	790
MW-64	FC-CCR-MW64-113017	11/30/2017	0.64	90	52	1.4	7.37	350	780
MW-64	FC-CCR-MW-64-6318	6/3/2018	0.48	85	50	1.4	7.54	390	800
MW-64	FC-CCR-MW64-11218	11/2/2018	0.64	88	50	1.4	7.43	350	760
MW-64	FC-CCR-MW64-5719-03	5/7/2019	0.49	89	--	1.4	7.41	--	790
MW-64	FC-CCR-MW64-120319	12/3/2019	0.56	82	--	1.5	7.29	--	720
MW-64	FC-CCR-MW64-0620	06/19/2020	0.47	77	49	1.3	7.22	300	790
MW-64	FC-CCR-MW64-1120	11/05/2020	0.51	73	53	1.6	7.49	270	720
MW-64	FC-CCR-MW64-0421	04/22/2021	0.5	89	52	1.4	7.60	300	660
MW-64	FC-CCR-MW64-1121	11/15/2021	0.58	72	51	1.4	7.29	270	680
MW-64	FC-CCR-MW64-0522	5/20/2022	0.53	77	52	1.4	7.61	290	850
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		BTV or Intrawell UPL [1,2]:	***0.73***	***486***	***631***	***1.6***	***7.66/7.23***	***13,000***	***20,000***
		Temporal Trend [3]:	*Decreasing*	*Decreasing*	*None*	*None*	*None*	*None*	*Decreasing*

Table 2
Four Corners CWTP Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampleDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
MW-65	FC-CCR-MW65-110515	11/5/2015	0.86	100	52	2.0	7.50	440	1000
MW-65	FC-CCR-MW-65-042716	4/27/2016	0.76	110	55	1.8	7.29	460	1100
MW-65	FC-CCR-MW65-616	6/5/2016	0.75	100	54	2.0	7.08	460	1100
MW-65	FC-CCR-MW65-816	8/20/2016	0.79	100	52	1.7	8.27	450	1000
MW-65	FC-CCR-MW65-916	9/12/2016	0.83	110	54	2.0	7.52	480	1100
MW-65	FC-CCR-MW65-1016	10/19/2016	0.77	95	54	2.0	7.36	450	1000
MW-65	FC-CCR-MW65-117	2/1/2017	0.76	96	51	1.8	7.35	410	970
MW-65	FC-CCR-MW65-41617	4/16/2017	0.83	120	60	1.8	7.21	490	1300
MW-65	FC-CCR-MW65-5117	5/1/2017	0.79	110	58	1.6	7.24	500	1100
MW-65	FC-CCR-MW65-52917	5/29/2017	0.98	160	77	1.8	7.10	790	1500
MW-65	FC-CCR-MW65-62117	6/21/2017	0.92	140	68	1.9	7.06	710	1400
MW-65	FC-CCR-MW65-72117	7/21/2017	0.76	110	53	2.0	7.31	470	1000
MW-65	FC-CCR-MW65-8917	8/9/2017	0.76	110	53	2.0	7.15	500	1000
MW-65	FC-CCR-MW65-81617	8/16/2017	0.75	110	53	2.0	6.96	500	1000
MW-65	FC-CCR-MW65-9917	9/9/2017	0.80	110	53	2.0	7.04	450	1000
MW-65	FC-CCR-MW65-101317	10/13/2017	0.75	92	52	1.9	7.13	400	960
MW-65	FC-CCR-MW65-113017	11/30/2017	0.79	100	53	2.0	7.21	410	990
MW-65	FC-CCR-MW-65-6318	6/3/2018	0.62	98	52	1.9	7.22	480	1000
MW-65	FC-CCR-MW65-11218	11/2/2018	0.77	100	51	1.9	7.18	420	940
MW-65	FC-CCR-MW65-5719-05	5/7/2019	0.60	100	--	1.7	7.13	--	970
MW-65	FC-CCR-MW65-120319	12/3/2019	0.65	89	--	1.9	7.10	--	850
MW-65	FC-CCR-MW65-0620	06/19/2020	0.57	88	48	1.7	7.18	380	940
MW-65	FC-CCR-MW65-1120	11/05/2020	0.61	82	52	2.1	7.36	350	780
MW-65	FC-CCR-MW65-0421	04/22/2021	0.78	170	71	1.5	7.19	740	540
MW-65	FC-CCR-MW65-0721	07/08/2021	0.87	--	--	--	7.40	--	--
MW-65	FC-CCR-MW65-1121	11/15/2021	0.73	92	55	1.7	7.14	390	910
MW-65	FC-CCR-MW65-0222	02/09/2022	0.71	--	--	--	7.17	--	--
MW-65	FC-CCR-MW65-0522	05/20/2022	**0.85**	200	140	1.5	7.27	980	1900
MW-65	FC-CCR-MW65-0822	8/14/2022	0.61	--	--	--	7.29	--	--
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		BTV or Intrawell UPL [1,2]:	***0.73***	***486***	***631***	***2.1***	***7.44/7.00***	***13,000***	***20,000***
		Temporal Trend [3]:	*Decreasing*	*None*	*None*	*None*	*None*	*None*	*Decreasing*

Table 2
Four Corners CWTP Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampleDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS

Notes:

BTV = background threshold value	*0.75*	Value from baseline monitoring period (November 2015 thru October 2017)
mg/L = milligrams per liter		Reported value in current sampling round exceeds the BTV or UPL
TDS = total dissolved solids		Statistically significant increasing trend present
UPL = upper prediction limit		Statistically significant decreasing trend present
SU = standard units	None	Insufficient evidence to identify a trend
		Updated BTV (See Table 1)

[1] See Table 1 for relevant BTV and Intrawell UPL information
[2] For pH, values presented refer to the Upper Prediction Limit/Lower Prediction Limit, respectively
[3] Temporal trends evaluated with Mann-Kendall trend tests ($p<0.05$); tied values (sequential sample concentrations

APPENDIX A

PROUCL DATA UPLOAD TABLE

Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	Sulfate	D_Sulfate	DissolvedSolids	D_DissolvedSolids	Field_pH	D_Field_pH
MW-62	FC-CCR-MW62-110915	11/9/2015	2.1	1	520	1	150	1	1.6	1	3600	1	6700	1	6.63	1
MW-62	FC-CCR-MW-62-042716	4/27/2016	2	1	530	1	150	1	1.6	1	3200	1	6100	1	6.77	1
MW-62	FC-CCR-MW62-616	6/5/2016	2	1	510	1	140	1	1.5	1	3300	1	5900	1	6.50	1
MW-62	FC-CCR-MW62-816	8/20/2016	2.3	1	530	1	120	1	1.5	1	3300	1	5800	1	7.40	1
MW-62	FC-CCR-MW62-916	9/12/2016	2.5	1	570	1	130	1	1.5	1	3300	1	2400	1	6.73	1
MW-62	FC-CCR-MW62-1016	10/19/2016	2.2	1	480	1	120	1	1.2	1	3300	1	6000	1	6.57	1
MW-62	FC-CCR-MW62-117	2/1/2017	2.1	1	510	1	110	1	1.4	1	3400	1	5600	1	6.68	1
MW-62	FC-CCR-MW62-41617	4/16/2017	1.9	1	500	1	120	1	1.2	1	3300	1	5900	1	6.64	1
MW-62	FC-CCR-MW62-5117	5/1/2017	1.9	1	520	1	110	1	3.3	1	3800	1	5800	1	6.64	1
MW-62	FC-CCR-MW62-52917	5/29/2017	1.9	1	570	1	120	1	1.2	1	3500	1	5500	1	6.50	1
MW-62	FC-CCR-MW62-62117	6/21/2017	1.9	1	520	1	120	1	1.4	1	3600	1	5700	1	6.54	1
MW-62	FC-CCR-MW62-72117	7/21/2017	2.1	1	540	1	99	1	1.5	1	3300	1	5400	1	6.69	1
MW-62	FC-CCR-MW62-8917	8/9/2017	2.2	1	540	1	110	1	1.4	1	3400	1	5400	1	6.41	1
MW-62	FC-CCR-MW62-81617	8/16/2017	2.1	1	590	1	110	1	1.6	1	3200	1	5400	1	6.36	1
MW-62	FC-CCR-MW62-9917	9/9/2017	2.3	1	570	1	120	1	1.5	1	3300	1	5500	1	6.41	1
MW-62	FC-CCR-MW62-101317	10/13/2017	2.2	1	520	1	130	1	1.5	1	3300	1	5600	1	6.46	1
MW-62	FC-CCR-MW62-113017	11/30/2017	2.3	1	570	1	130	1	1.4	1	3400	1	5900	1	6.43	1
MW-62	FC-CCR-MW62-4618	4/6/2018	2.1	1	520	1	--	--	--	--	--	--	--	--	6.70	1
MW-62	FC-CCR-MW-62-6318	6/3/2018	1.8	1	490	1	120	1	1.6	1	3500	1	5900	1	6.59	1
MW-62	FC-CCR-MW62-11218	11/2/2018	2.4	1	550	1	110	1	1.5	1	3300	1	5600	1	6.46	1
MW-62	FC-CCR-MW62-5719-01	5/7/2019	1.8	1	540	1	--	--	1.4	1	--	--	5800	1	6.65	1
MW-62	FC-CCR-MW62-120319	12/3/2019	2.1	1	530	1	NA	0	1.5	1	NA	0	5000	1	6.37	1
MW-62	FC-CCR-MW62-0620	6/19/2020	1.9	1	490	1	82	1	1.8	1	2800	1	4700	1	6.90	1
MW-62	FC-CCR-MW62-1120	11/5/2020	2.1	1	510	1	130	1	1.8	1	3500	1	5300	1	6.57	1
MW-62	FC-CCR-MW62-011421	1/14/2021	--	--	--	--	--	--	1.2	1	--	--	--	--	--	--
MW-62	FC-CCR-MW62-0421	4/22/2021	1.9	1	530	1	130	1	1.5	1	3400	1	5700	1	6.91	1
MW-62	FC-CCR-MW62-1121	11/15/2021	2.3	1	530	1	180	1	1.4	1	4000	1	6700	1	6.51	1
MW-62	FC-CCR-MW62-0222	2/9/2022	1.9	1	--	--	--	--	--	--	--	--	--	--	6.71	1
MW-62	FC-CCR-MW62-0522	5/20/2022	1.8	1	500	1	180	1	1.4	1	3400	1	6000	1	6.89	1
MW-63	FC-CCR-MW63-110415	11/4/2015	1.6	1	420	1	77	1	2.4	1	2800	1	4100	1	6.86	1
MW-63	FC-CCR-MW-63-042716	4/27/2016	1.3	1	500	1	100	1	2	1	2300	1	4300	1	6.88	1
MW-63	FC-CCR-MW63-616	6/5/2016	1.4	1	500	1	110	1	1.9	1	2500	1	4400	1	6.70	1
MW-63	FC-CCR-MW63-816	8/20/2016	1.9	1	530	1	98	1	1.9	1	2800	1	4700	1	6.92	1
MW-63	FC-CCR-MW63-916	9/12/2016	2	1	550	1	110	1	2.1	1	2800	1	4700	1	7.03	1
MW-63	FC-CCR-MW63-1016	10/19/2016	1.7	1	470	1	100	1	1.8	1	2700	1	4500	1	6.82	1
MW-63	FC-CCR-MW63-117	1/31/2017	1.4	1	510	1	95	1	2	1	2600	1	4200	1	6.67	1
MW-63	FC-CCR-MW63-41717	4/17/2017	1.4	1	520	1	98	1	1.6	1	2600	1	4400	1	6.78	1
MW-63	FC-CCR-MW63-5217	5/2/2017	1.4	1	510	1	92	1	2.5	1	4300	1	4300	1	6.79	1
MW-63	FC-CCR-MW63-52817	5/28/2017	1.5	1	550	1	98	1	1.6	1	2700	1	4300	1	6.80	1
MW-63	FC-CCR-MW63-62117	6/21/2017	1.6	1	520	1	100	1	1.9	1	2900	1	4400	1	6.78	1
MW-63	FC-CCR-MW63-72117	7/21/2017	1.8	1	530	1	98	1	2	1	2900	1	4600	1	6.87	1
MW-63	FC-CCR-MW63-8917	8/9/2017	1.9	1	530	1	97	1	1.9	1	2900	1	4500	1	6.56	1
MW-63	FC-CCR-MW63-81617	8/16/2017	1.8	1	580	1	100	1	2.1	1	2700	1	4500	1	6.53	1

Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	Sulfate	D_Sulfate	DissolvedSolids	D_DissolvedSolids	Field_pH	D_Field_pH
MW-63	FC-CCR-MW63-9917	9/9/2017	2	1	540	1	97	1	2	1	2700	1	4300	1	6.83	1
MW-63	FC-CCR-MW63-101317	10/13/2017	1.8	1	500	1	90	1	2	1	2700	1	4300	1	6.69	1
MW-63	FC-CCR-MW63-113017	11/30/2017	1.7	1	560	1	91	1	1.8	1	2700	1	4500	1	6.72	1
MW-63	FC-CCR-MW63-4618	4/6/2018	1.3	1	530	1	--	--	--	--	--	--	--	--	6.75	1
MW-63	FC-CCR-MW-63-6318	6/3/2018	1.4	1	510	1	90	1	1.7	1	2600	1	4500	1	6.76	1
MW-63	FC-CCR-MW63-112818	11/2/2018	1.9	1	550	1	88	1	1.9	1	2800	1	4300	1	6.66	1
MW-63	FC-CCR-MW63-5719-02	5/7/2019	1.3	1	540	1	--	--	1.6	1	--	--	4400	1	6.63	1
MW-63	FC-CCR-MW63-120319	12/3/2019	1.5	1	550	1	NA	0	1.8	1	NA	0	4300	1	6.58	1
MW-63	FC-CCR-MW63-0620	6/19/2020	1.5	1	540	1	77	1	2.1	1	2400	1	4200	1	6.53	1
MW-63	FC-CCR-MW63-1120	11/5/2020	1.7	1	550	1	85	1	2.2	1	2800	1	4200	1	6.72	1
MW-63	FC-CCR-MW63-0421	4/22/2021	0.93	1	400	1	88	1	2	1	1900	1	3200	1	7.07	1
MW-63	FC-CCR-MW63-0721	7/8/2021	--	--	--	--	--	--	--	--	--	--	--	--	7.21	1
MW-63	FC-CCR-MW63-1121	11/15/2021	1.3	1	440	1	81	1	0.28	1	2100	1	3600	1	6.89	1
MW-63	FC-CCR-MW63-0522	5/20/2022	0.83	1	310	1	93	1	2.1	1	1500	1	2500	1	7.09	1
MW-63	FC-CCR-MW63-0822	8/14/2022	--	--	--	--	--	--	--	--	--	--	--	--	6.88	1
MW-64	FC-CCR-MW64-110515	11/5/2015	0.64	1	87	1	49	1	1.5	1	320	1	780	1	7.64	1
MW-64	FC-CCR-MW-64-042716	4/27/2016	0.62	1	90	1	53	1	1.4	1	340	1	810	1	7.50	1
MW-64	FC-CCR-MW64-616	6/5/2016	0.58	1	86	1	52	1	1.4	1	350	1	800	1	7.29	1
MW-64	FC-CCR-MW64-816	8/20/2016	0.65	1	89	1	46	1	1.3	1	330	1	790	1	7.68	1
MW-64	FC-CCR-MW64-916	9/12/2016	0.67	1	90	1	52	1	1.5	1	320	1	790	1	7.54	1
MW-64	FC-CCR-MW64-1016	10/19/2016	0.64	1	83	1	53	1	1.5	1	330	1	790	1	7.52	1
MW-64	FC-CCR-MW64-117	1/31/2017	0.61	1	85	1	48	1	1.4	1	340	1	800	1	7.38	1
MW-64	FC-CCR-MW64-41717	4/17/2017	0.58	1	85	1	51	1	1.4	1	870	1	800	1	7.53	1
MW-64	FC-CCR-MW64-5217	5/2/2017	0.55	1	86	1	44	1	1.3	1	340	1	780	1	7.47	1
MW-64	FC-CCR-MW64-52817	5/28/2017	0.55	1	93	1	51	1	1.5	1	380	1	780	1	7.45	1
MW-64	FC-CCR-MW64-62117	6/21/2017	0.55	1	86	1	51	1	1.4	1	390	1	770	1	7.50	1
MW-64	FC-CCR-MW64-72117	7/21/2017	0.59	1	88	1	52	1	1.5	1	370	1	790	1	7.61	1
MW-64	FC-CCR-MW64-8917	8/9/2017	0.61	1	89	1	52	1	1.5	1	380	1	890	1	7.31	1
MW-64	FC-CCR-MW64-81617	8/16/2017	0.58	1	89	1	53	1	1.5	1	360	1	790	1	7.29	1
MW-64	FC-CCR-MW64-9917	9/9/2017	0.67	1	90	1	53	1	1.5	1	350	1	810	1	7.36	1
MW-64	FC-CCR-MW64-101317	10/13/2017	0.62	1	82	1	52	1	1.4	1	360	1	790	1	7.42	1
MW-64	FC-CCR-MW64-113017	11/30/2017	0.64	1	90	1	52	1	1.4	1	350	1	780	1	7.37	1
MW-64	FC-CCR-MW-64-6318	6/3/2018	0.48	1	85	1	50	1	1.4	1	390	1	800	1	7.54	1
MW-64	FC-CCR-MW64-11218	11/2/2018	0.64	1	88	1	50	1	1.4	1	350	1	760	1	7.43	1
MW-64	FC-CCR-MW64-5719-03	5/7/2019	0.49	1	89	1	--	--	1.4	1	--	--	790	1	7.41	1
MW-64	FC-CCR-MW64-120319	12/3/2019	0.56	1	82	1	NA	0	1.5	1	NA	0	720	1	7.29	1
MW-64	FC-CCR-MW64-0620	6/19/2020	0.47	1	77	1	49	1	1.3	1	300	1	790	1	7.22	1
MW-64	FC-CCR-MW64-1120	11/5/2020	0.51	1	73	1	53	1	1.6	1	270	1	720	1	7.49	1
MW-64	FC-CCR-MW64-0421	4/22/2021	0.5	1	89	1	52	1	1.4	1	300	1	660	1	7.60	1
MW-64	FC-CCR-MW64-1121	11/15/2021	0.58	1	72	1	51	1	1.4	1	270	1	680	1	7.29	1
MW-64	FC-CCR-MW64-0522	5/20/2022	0.53	1	77	1	52	1	1.4	1	290	1	850	1	7.61	1
MW-65	FC-CCR-MW65-110515	11/5/2015	0.86	1	100	1	52	1	2	1	440	1	1000	1	7.50	1
MW-65	FC-CCR-MW-65-042716	4/27/2016	0.76	1	110	1	55	1	1.8	1	460	1	1100	1	7.29	1

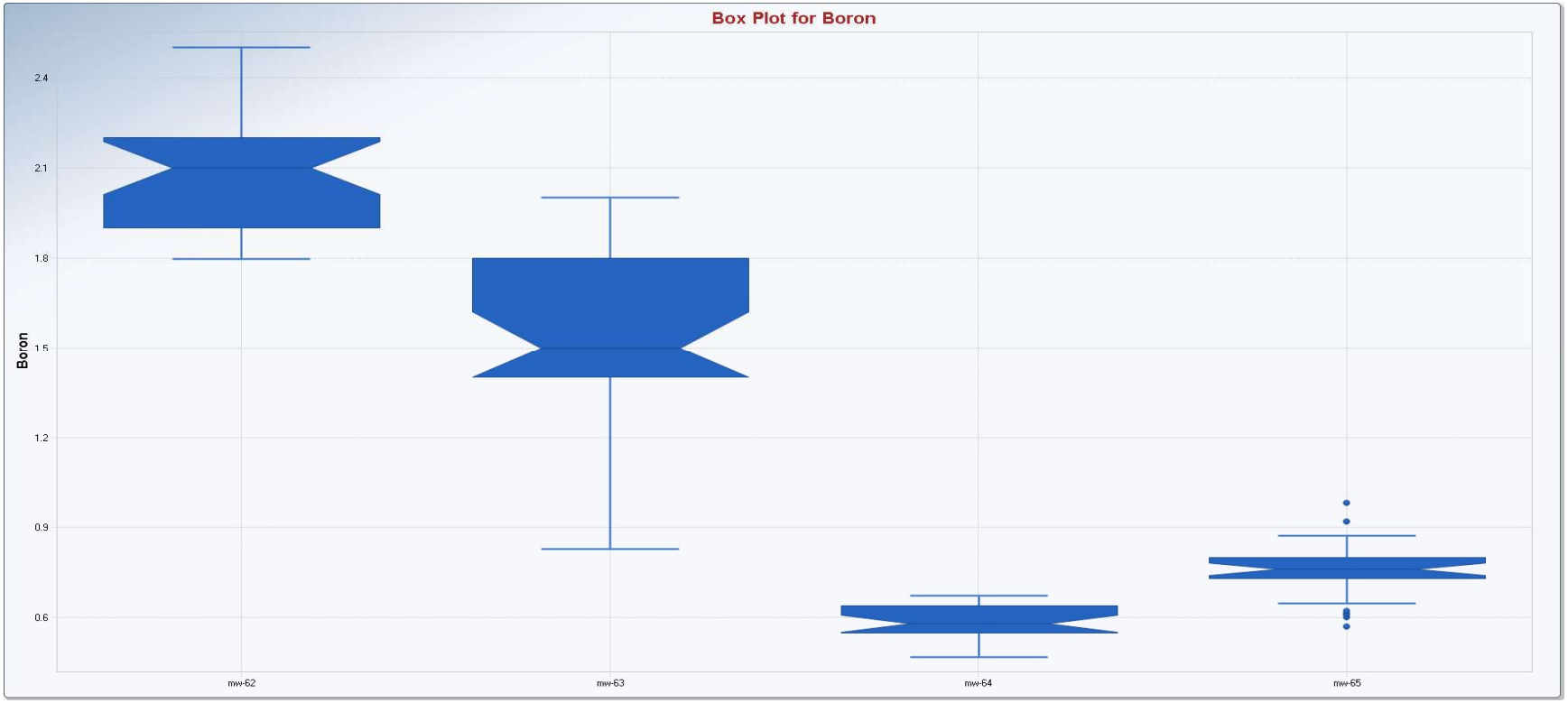
Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	Sulfate	D_Sulfate	DissolvedSolids	D_DissolvedSolids	Field_pH	D_Field_pH
MW-65	FC-CCR-MW65-616	6/5/2016	0.75	1	100	1	54	1	2	1	460	1	1100	1	7.08	1
MW-65	FC-CCR-MW65-816	8/20/2016	0.79	1	100	1	52	1	1.7	1	450	1	1000	1	8.27	1
MW-65	FC-CCR-MW65-916	9/12/2016	0.83	1	110	1	54	1	2	1	480	1	1100	1	7.52	1
MW-65	FC-CCR-MW65-1016	10/19/2016	0.77	1	95	1	54	1	2	1	450	1	1000	1	7.36	1
MW-65	FC-CCR-MW65-117	2/1/2017	0.76	1	96	1	51	1	1.8	1	410	1	970	1	7.35	1
MW-65	FC-CCR-MW65-41617	4/16/2017	0.83	1	120	1	60	1	1.8	1	490	1	1300	1	7.21	1
MW-65	FC-CCR-MW65-5117	5/1/2017	0.79	1	110	1	58	1	1.6	1	500	1	1100	1	7.24	1
MW-65	FC-CCR-MW65-52917	5/29/2017	0.98	1	160	1	77	1	1.8	1	790	1	1500	1	7.10	1
MW-65	FC-CCR-MW65-62117	6/21/2017	0.92	1	140	1	68	1	1.9	1	710	1	1400	1	7.06	1
MW-65	FC-CCR-MW65-72117	7/21/2017	0.76	1	110	1	53	1	2	1	470	1	1000	1	7.31	1
MW-65	FC-CCR-MW65-8917	8/9/2017	0.76	1	110	1	53	1	2	1	500	1	1000	1	7.15	1
MW-65	FC-CCR-MW65-81617	8/16/2017	0.75	1	110	1	53	1	2	1	500	1	1000	1	6.96	1
MW-65	FC-CCR-MW65-9917	9/9/2017	0.8	1	110	1	53	1	2	1	450	1	1000	1	7.04	1
MW-65	FC-CCR-MW65-101317	10/13/2017	0.75	1	92	1	52	1	1.9	1	400	1	960	1	7.13	1
MW-65	FC-CCR-MW65-113017	11/30/2017	0.79	1	100	1	53	1	2	1	410	1	990	1	7.21	1
MW-65	FC-CCR-MW-65-6318	6/3/2018	0.62	1	98	1	52	1	1.9	1	480	1	1000	1	7.22	1
MW-65	FC-CCR-MW65-11218	11/2/2018	0.77	1	100	1	51	1	1.9	1	420	1	940	1	7.18	1
MW-65	FC-CCR-MW65-5719-05	5/7/2019	0.6	1	100	1	--	--	1.7	1	--	--	970	1	7.13	1
MW-65	FC-CCR-MW65-120319	12/3/2019	0.65	1	89	1	NA	0	1.9	1	NA	0	850	1	7.10	1
MW-65	FC-CCR-MW65-0620	6/19/2020	0.57	1	88	1	48	1	1.7	1	380	1	940	1	7.18	1
MW-65	FC-CCR-MW65-1120	11/5/2020	0.61	1	82	1	52	1	2.1	1	350	1	780	1	7.36	1
MW-65	FC-CCR-MW65-0421	4/22/2021	0.78	1	170	1	71	1	1.5	1	740	1	540	1	7.19	1
MW-65	FC-CCR-MW65-0721	7/8/2021	0.87	1	--	--	--	--	--	--	--	--	--	--	7.40	1
MW-65	FC-CCR-MW65-1121	11/15/2021	0.73	1	92	1	55	1	1.7	1	390	1	910	1	7.14	1
MW-65	FC-CCR-MW65-0222	2/9/2022	0.71	1	--	--	--	--	--	--	--	--	--	--	7.17	1
MW-65	FC-CCR-MW65-0522	5/20/2022	0.85	1	200	1	140	1	1.5	1	980	1	1900	1	7.27	1
MW-65	FC-CCR-MW65-0822	8/14/2022	0.61	1	--	--	--	--	--	--	--	--	--	--	7.29	1

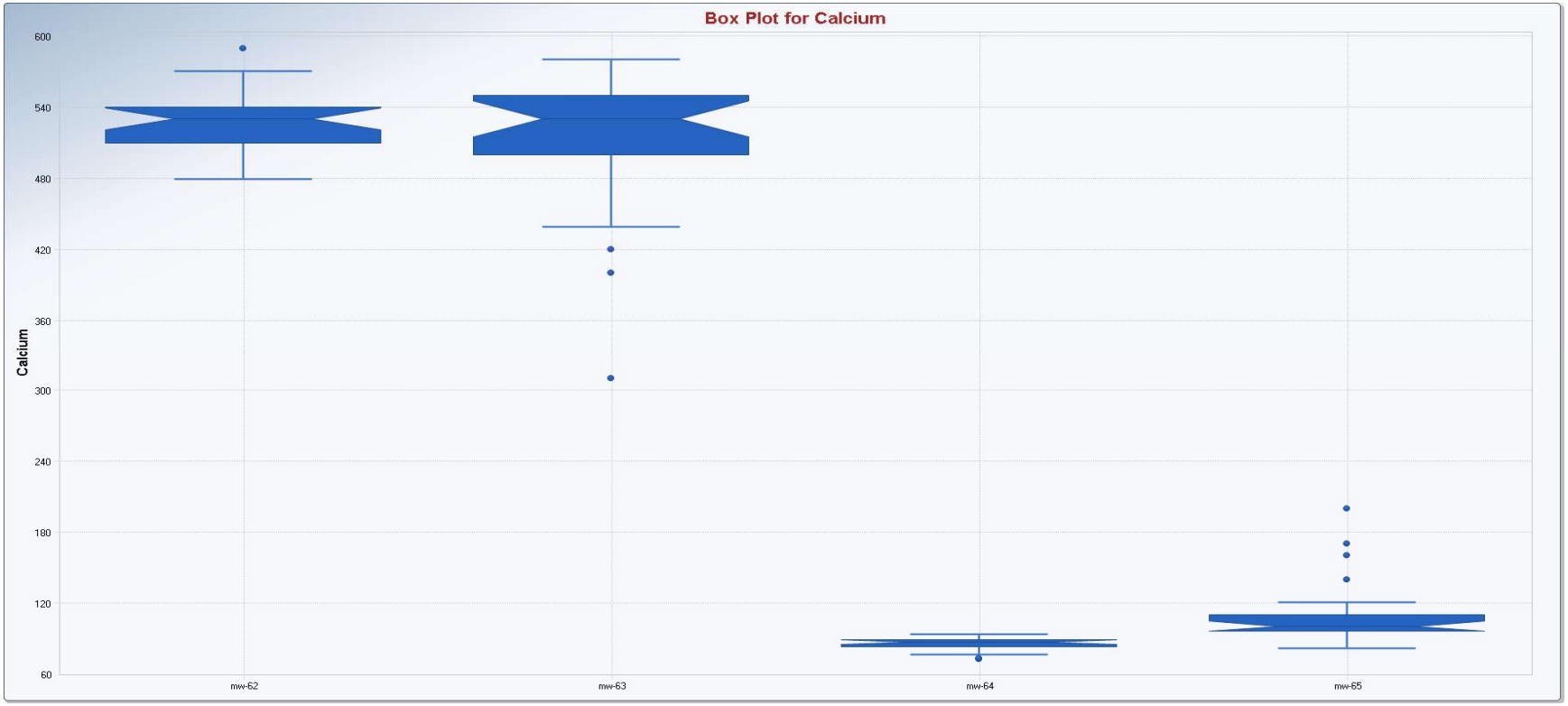
APPENDIX B

PROUCL EDA OUTPUT FILES

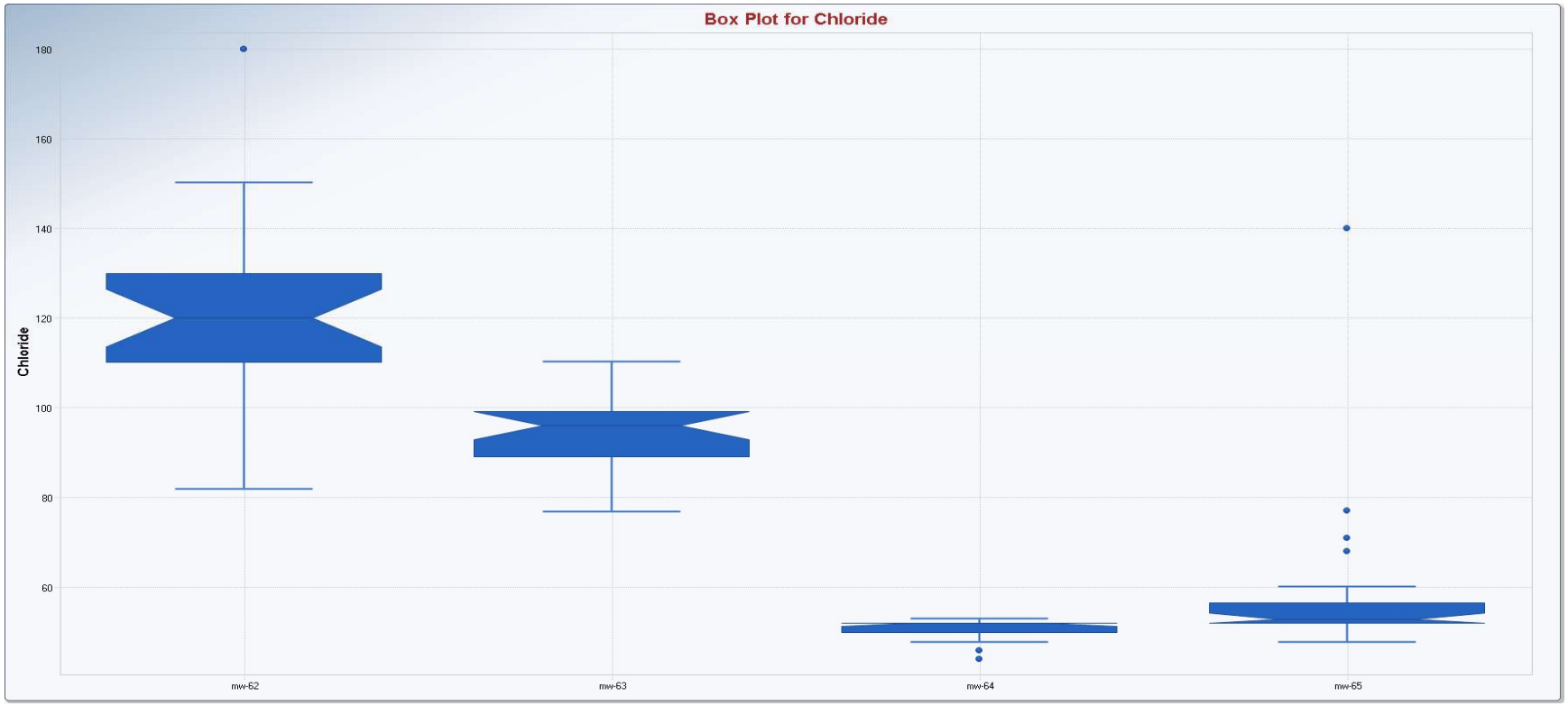
Appendix B
Box and Whisker Plots



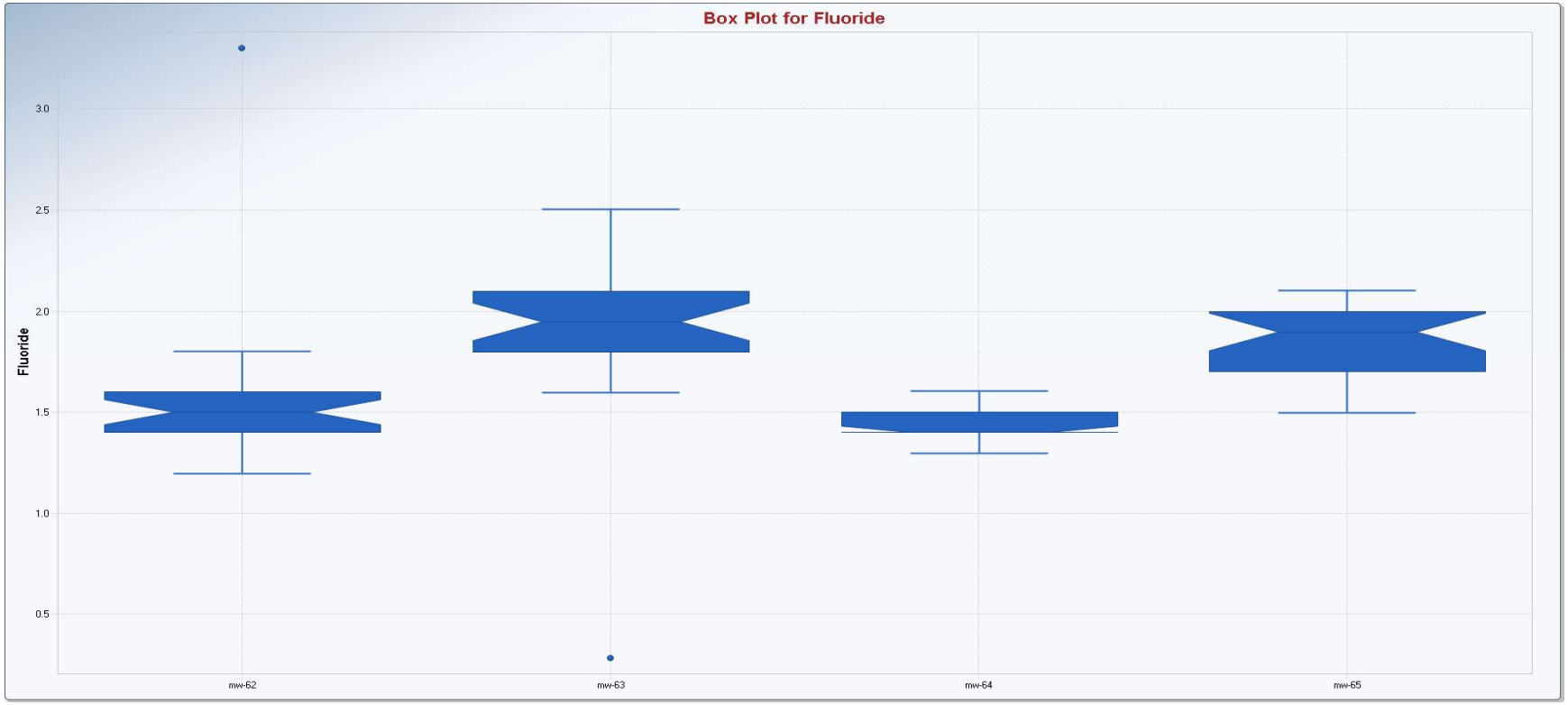
Appendix B
Box and Whisker Plots



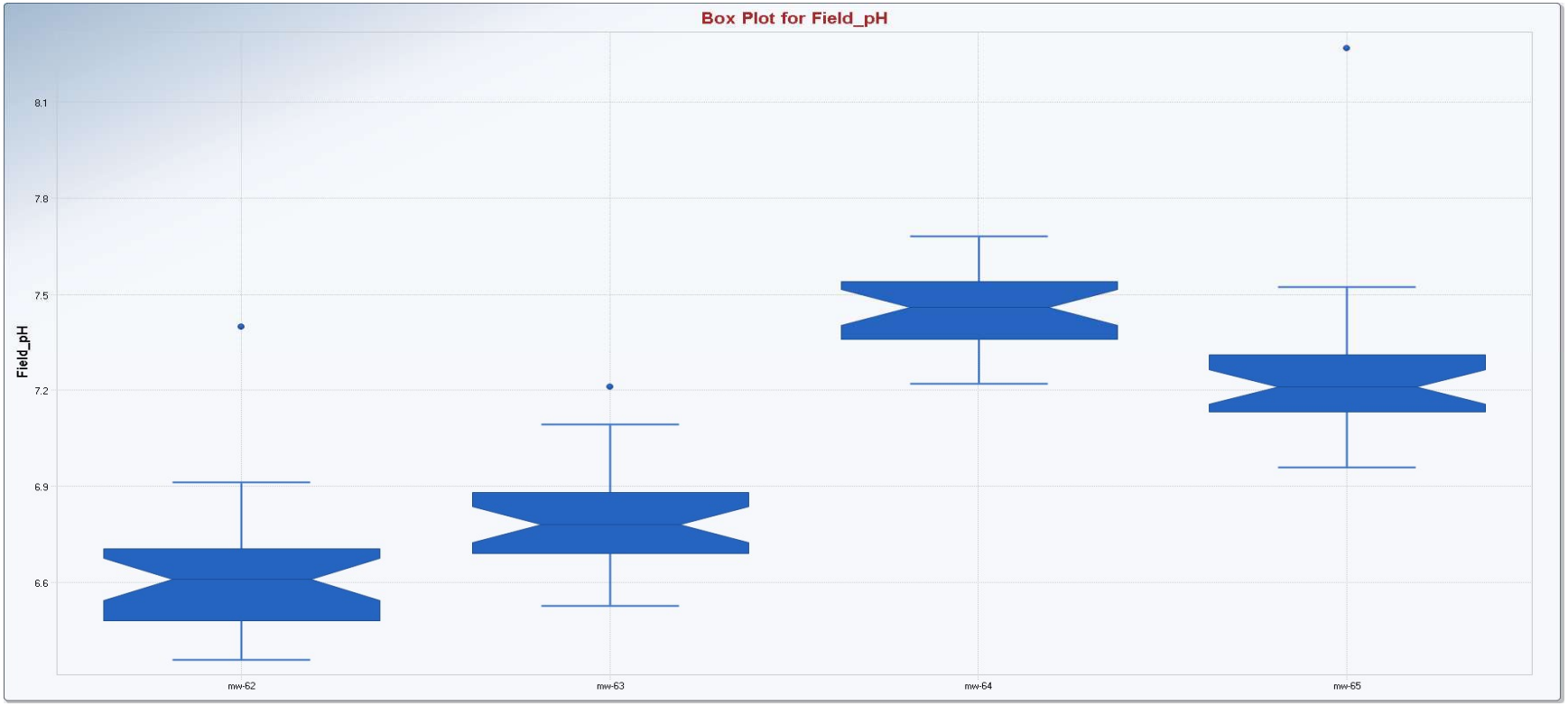
Appendix B
Box and Whisker Plots



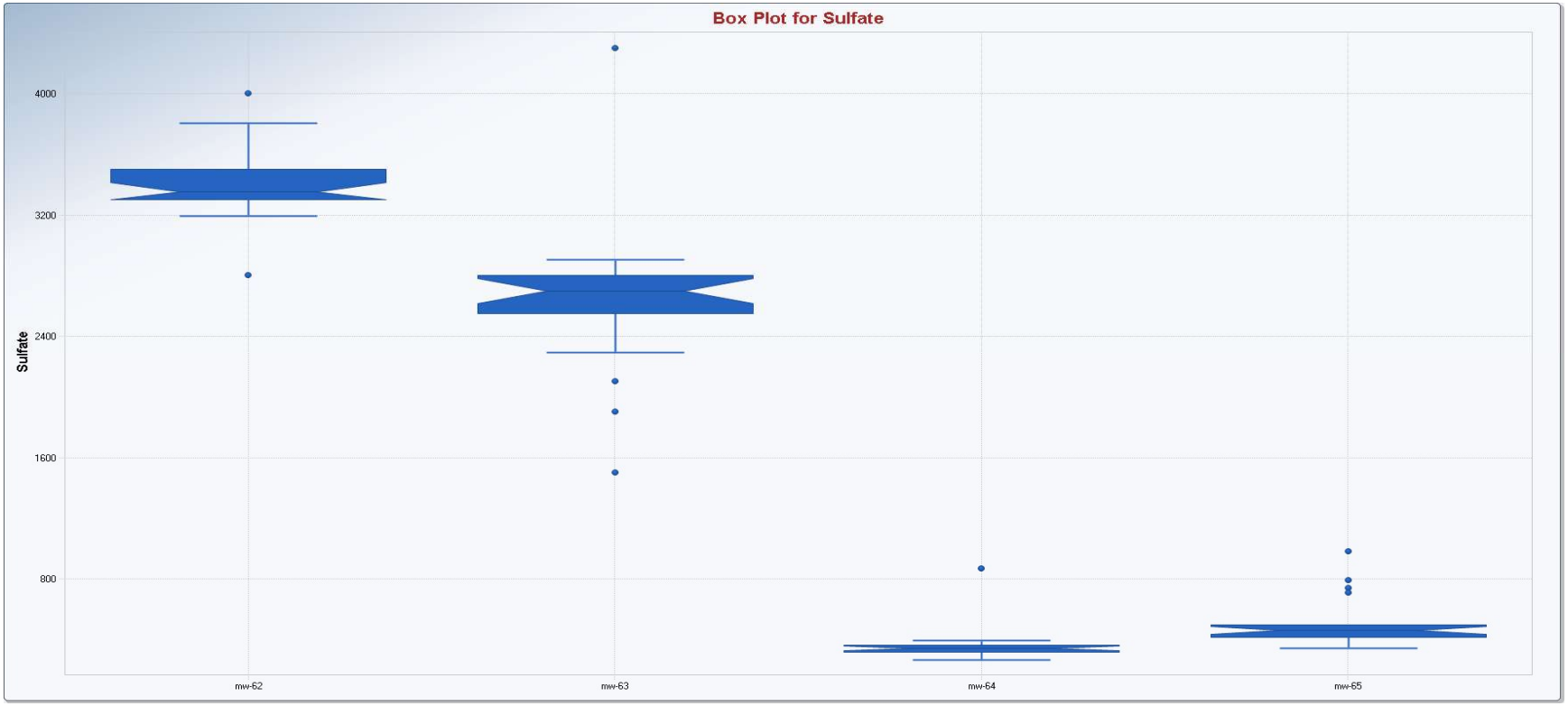
Appendix B
Box and Whisker Plots



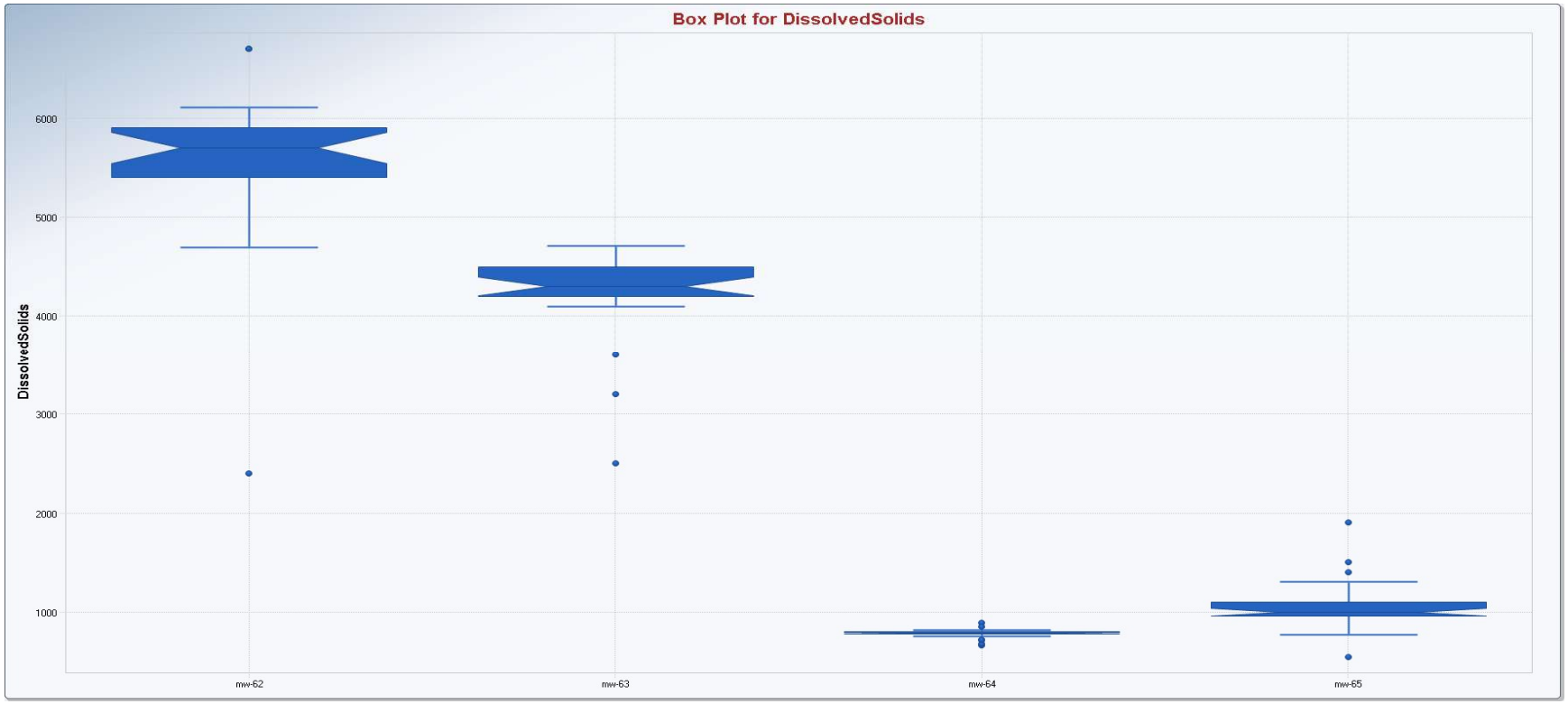
Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Goodness of Fit Statistics

	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	
Date/Time of Computation	ProUCL 5.19/3/2022 9:05:18 PM
From File	CWTP_StatsAnalysis_DataFile_2022-08.xls
Full Precision	OFF
Confidence Coefficient	0.95

Boron (mw-62)

Raw Statistics	
Number of Valid Observations	28
Number of Missing Observations	1
Number of Distinct Observations	8
Minimum	1.8
Maximum	2.5
Mean of Raw Data	2.075
Standard Deviation of Raw Data	0.192
Khat	123
Theta hat	0.0169
Kstar	109.9
Theta star	0.0189
Mean of Log Transformed Data	0.726
Standard Deviation of Log Transformed Data	0.0916
Normal GOF Test Results	
Correlation Coefficient R	0.972
Shapiro Wilk Test Statistic	0.935
Shapiro Wilk Critical (0.05) Value	0.924
Approximate Shapiro Wilk P Value	0.0906
Lilliefors Test Statistic	0.176
Lilliefors Critical (0.05) Value	0.164
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.975
A-D Test Statistic	0.71
A-D Critical (0.05) Value	0.743

Appendix B
Goodness of Fit Statistics

K-S Test Statistic	0.182
K-S Critical(0.05) Value	0.165
Data follow Appr. Gamma Distribution at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.974
Shapiro Wilk Test Statistic	0.937
Shapiro Wilk Critical (0.05) Value	0.924
Approximate Shapiro Wilk P Value	0.106
Lilliefors Test Statistic	0.178
Lilliefors Critical (0.05) Value	0.164
Data appear Approximate_Lognormal at (0.05) Significance Level	
Boron (mw-63)	
Raw Statistics	
Number of Valid Observations	27
Number of Missing Observations	2
Number of Distinct Observations	10
Minimum	0.83
Maximum	2
Mean of Raw Data	1.55
Standard Deviation of Raw Data	0.298
Khat	25.03
Theta hat	0.0619
Kstar	22.27
Theta star	0.0696
Mean of Log Transformed Data	0.418
Standard Deviation of Log Transformed Data	0.212
Normal GOF Test Results	
Correlation Coefficient R	0.973
Shapiro Wilk Test Statistic	0.943
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.157
Lilliefors Test Statistic	0.126
Lilliefors Critical (0.05) Value	0.167

Appendix B
Goodness of Fit Statistics

Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.959
A-D Test Statistic	0.635
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.141
K-S Critical(0.05) Value	0.168
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.945
Shapiro Wilk Test Statistic	0.895
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.00992
Lilliefors Test Statistic	0.157
Lilliefors Critical (0.05) Value	0.167
Data appear Approximate_Lognormal at (0.05) Significance Level	
Boron (mw-64)	
Raw Statistics	
Number of Valid Observations	26
Number of Distinct Observations	15
Minimum	0.47
Maximum	0.67
Mean of Raw Data	0.581
Standard Deviation of Raw Data	0.0592
Khat	97.25
Theta hat	0.00598
Kstar	86.06
Theta star	0.00675
Mean of Log Transformed Data	-0.548
Standard Deviation of Log Transformed Data	0.104
Normal GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.982
Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.229
Lilliefors Test Statistic	0.11
Lilliefors Critical (0.05) Value	0.17
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.975
A-D Test Statistic	0.478
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.121
K-S Critical(0.05) Value	0.171
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.977
Shapiro Wilk Test Statistic	0.939
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.141
Lilliefors Test Statistic	0.127
Lilliefors Critical (0.05) Value	0.17
Data appear Lognormal at (0.05) Significance Level	
Boron (mw-65)	
Raw Statistics	
Number of Valid Observations	29
Number of Distinct Observations	19
Minimum	0.57
Maximum	0.98
Mean of Raw Data	0.759
Standard Deviation of Raw Data	0.0965
Khat	62.21
Theta hat	0.0122
Kstar	55.8

Appendix B
Goodness of Fit Statistics

Theta star	0.0136
Mean of Log Transformed Data	-0.283
Standard Deviation of Log Transformed Data	0.13
Normal GOF Test Results	
Correlation Coefficient R	0.975
Shapiro Wilk Test Statistic	0.95
Shapiro Wilk Critical (0.05) Value	0.926
Approximate Shapiro Wilk P Value	0.21
Lilliefors Test Statistic	0.186
Lilliefors Critical (0.05) Value	0.161
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.973
A-D Test Statistic	0.855
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.202
K-S Critical(0.05) Value	0.162
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.968
Shapiro Wilk Test Statistic	0.936
Shapiro Wilk Critical (0.05) Value	0.926
Approximate Shapiro Wilk P Value	0.0872
Lilliefors Test Statistic	0.211
Lilliefors Critical (0.05) Value	0.161
Data appear Approximate_Lognormal at (0.05) Significance Level	
Calcium (mw-62)	
Raw Statistics	
Number of Valid Observations	27
Number of Missing Observations	2
Number of Distinct Observations	10

Appendix B
Outlier Statistics

	Outlier Tests for Selected Variables excluding nondetects
User Selected Options	
Date/Time of Computation	ProUCL 5.19/3/2022 9:25:03 PM
From File	CWTP_StatsAnalysis_DataFile_2022-08.xls
Full Precision	OFF

Rosner's Outlier Test for 1 Outliers in Boron (mw-62)

Total N	28
Number NDs	0
Number Detects	28
Mean of Detects	2.075
SD of Detects	0.192
Number of data	28
Number of suspected outliers	1
NDs not included in the following:	

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	2.075	0.188	2.5	5	2.257	2.88	3.2

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for 1 Outliers in Boron (mw-63)

Total N	27
Number NDs	0
Number Detects	27
Mean of Detects	1.55
SD of Detects	0.298
Number of data	27
Number of suspected outliers	1
NDs not included in the following:	

Appendix B
Outlier Statistics

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	1.55	0.292	0.83	27	2.465	2.86	3.18

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for 1 Outliers in Boron (mw-64)

Total N	**26**
Number NDs	**0**
Number Detects	**26**
Mean of Detects	**0.581**
SD of Detects	**0.0592**
Number of data	**26**
Number of suspected outliers	**1**
NDs not included in the following:	

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	0.581	0.0581	0.47	22	1.914	2.84	3.16

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for 1 Outliers in Boron (mw-65)

Total N	**29**
Number NDs	**0**
Number Detects	**29**
Mean of Detects	**0.759**
SD of Detects	**0.0965**
Number of data	**29**

Appendix B
Outlier Statistics

Number of suspected outliers	1						
NDs not included in the following:							
			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	0.759	0.0949	0.98	10	2.326	2.89	3.22

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for 1 Outliers in Calcium (mw-62)

Total N	27
Number NDs	0
Number Detects	27
Mean of Detects	528.9
SD of Detects	27.64
Number of data	27
Number of suspected outliers	1
NDs not included in the following:	

			Potential	Obs.	Test	Critical	Critical
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)
1	528.9	27.13	590	14	2.253	2.86	3.18

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for 1 Outliers in Calcium (mw-63)

Total N	27
Number NDs	0
Number Detects	27

Appendix B
Outlier Statistics

Mean of Detects	**508.9**
SD of Detects	**57.8**
Number of data	**27**
Number of suspected outliers	**1**
NDs not included in the following:	

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	508.9	56.72	310	27	3.506	2.86	3.18

For 5% Significance Level, there is 1 Potential Outlier

Therefore, Observation 310 is a Potential Statistical Outlier

For 1% Significance Level, there is 1 Potential Outlier

Rosner's Outlier Test for 1 Outliers in Calcium (mw-64)

Total N	**26**
Number NDs	**0**
Number Detects	**26**
Mean of Detects	**85.38**
SD of Detects	**5.397**
Number of data	**26**
Number of suspected outliers	**1**
NDs not included in the following:	

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	85.38	5.292	72	25	2.529	2.84	3.16

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for 1 Outliers in Calcium (mw-65)

Appendix B
Outlier Statistics

Total N	**26**
Number NDs	**0**
Number Detects	**26**
Mean of Detects	**111.2**
SD of Detects	**27.34**
Number of data	**26**
Number of suspected outliers	**1**
NDs not included in the following:	

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	111.2	26.81	200	26	3.312	2.84	3.16

For 5% Significance Level, there is 1 Potential Outlier

Therefore, Observation 200 is a Potential Statistical Outlier

For 1% Significance Level, there is 1 Potential Outlier

Dixon's Outlier Test for Chloride (mw-62)

Total N = 24

Number NDs = 0

Number Detects = 24

10% critical value: 0.367

5% critical value: 0.413

1% critical value: 0.497

Note: NDs excluded from Outlier Test

1. Data Value 180 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.429

For 10% significance level, 180 is an outlier.

For 5% significance level, 180 is an outlier.

For 1% significance level, 180 is not an outlier.

2. Data Value 82 is a Potential Outlier (Lower Tail)?

Appendix B
Outlier Statistics

Test Statistic: 0.412

For 10% significance level, 82 is an outlier.
For 5% significance level, 82 is not an outlier.
For 1% significance level, 82 is not an outlier.

Dixon's Outlier Test for Chloride (mw-63)

Total N = 24
Number NDs = 0
Number Detects = 24
10% critical value: 0.367
5% critical value: 0.413
1% critical value: 0.497
Note: NDs excluded from Outlier Test

1. Data Value 110 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.345

For 10% significance level, 110 is not an outlier.
For 5% significance level, 110 is not an outlier.
For 1% significance level, 110 is not an outlier.

2. Data Value 77 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.174

For 10% significance level, 77 is not an outlier.
For 5% significance level, 77 is not an outlier.
For 1% significance level, 77 is not an outlier.

Dixon's Outlier Test for Chloride (mw-64)

Total N = 24
Number NDs = 0

Appendix B
Outlier Statistics

Number Detects = 24
10% critical value: 0.367
5% critical value: 0.413
1% critical value: 0.497
Note: NDs excluded from Outlier Test

1. Data Value 53 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.000

For 10% significance level, 53 is not an outlier.
For 5% significance level, 53 is not an outlier.
For 1% significance level, 53 is not an outlier.

2. Data Value 44 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.444

For 10% significance level, 44 is an outlier.
For 5% significance level, 44 is an outlier.
For 1% significance level, 44 is not an outlier.

Dixon's Outlier Test for Chloride (mw-65)

Total N = 24
Number NDs = 0
Number Detects = 24
10% critical value: 0.367
5% critical value: 0.413
1% critical value: 0.497
Note: NDs excluded from Outlier Test

1. Data Value 140 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.775

For 10% significance level, 140 is an outlier.
For 5% significance level, 140 is an outlier.

Appendix B
Outlier Statistics

For 1% significance level, 140 is an outlier.

2. Data Value 48 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.130

For 10% significance level, 48 is not an outlier.
For 5% significance level, 48 is not an outlier.
For 1% significance level, 48 is not an outlier.

Rosner's Outlier Test for 1 Outliers in Field_pH (mw-62)

Total N	**28**
Number NDs	**0**
Number Detects	**28**
Mean of Detects	**6.629**
SD of Detects	**0.216**
Number of data	**28**
Number of suspected outliers	**1**
NDs not included in the following:	

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	6.629	0.212	7.4	4	3.634	2.88	3.2

For 5% Significance Level, there is 1 Potential Outlier
Therefore, Observation 7.4 is a Potential Statistical Outlier

For 1% Significance Level, there is 1 Potential Outlier

Rosner's Outlier Test for 1 Outliers in Field_pH (mw-63)

Total N	**29**
Number NDs	**0**
Number Detects	**29**

Appendix B
Outlier Statistics

Mean of Detects	6.793
SD of Detects	0.167
Number of data	29
Number of suspected outliers	1
NDs not included in the following:	

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	6.793	0.164	7.21	26	2.544	2.89	3.22

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for 1 Outliers in Field_pH (mw-64)

Total N	26
Number NDs	0
Number Detects	26
Mean of Detects	7.452
SD of Detects	0.126
Number of data	26
Number of suspected outliers	1
NDs not included in the following:	

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	7.452	0.123	7.22	22	1.88	2.84	3.16

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

Rosner's Outlier Test for 1 Outliers in Field_pH (mw-65)

Appendix B
Outlier Statistics

Total N	**29**
Number NDs	**0**
Number Detects	**29**
Mean of Detects	**7.256**
SD of Detects	**0.235**
Number of data	**29**
Number of suspected outliers	**1**
NDs not included in the following:	

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	7.256	0.231	8.27	4	4.385	2.89	3.22

For 5% Significance Level, there is 1 Potential Outlier

Therefore, Observation 8.27 is a Potential Statistical Outlier

For 1% Significance Level, there is 1 Potential Outlier

Appendix B
Summary Statistics

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.19/1/2022 11:46:02 AM

User Selected Options

From File CWTP_StatsAnalysis_DataFile_2022-08.xls

Full Precision OFF

From File: CWTP_StatsAnalysis_DataFile_2022-08.xls

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Boron (mw-62)	28	1	28	0	0.00%	N/A	N/A	2.075	0.0368	0.192	0.0924
Boron (mw-63)	27	2	27	0	0.00%	N/A	N/A	1.55	0.0887	0.298	0.192
Boron (mw-64)	26	0	26	0	0.00%	N/A	N/A	0.581	0.00351	0.0592	0.102
Boron (mw-65)	29	0	29	0	0.00%	N/A	N/A	0.759	0.00932	0.0965	0.127
Calcium (mw-62)	27	2	27	0	0.00%	N/A	N/A	528.9	764.1	27.64	0.0523
Calcium (mw-63)	27	2	27	0	0.00%	N/A	N/A	508.9	3341	57.8	0.114
Calcium (mw-64)	26	0	26	0	0.00%	N/A	N/A	85.38	29.13	5.397	0.0632
Calcium (mw-65)	26	3	26	0	0.00%	N/A	N/A	111.2	747.3	27.34	0.246
Chloride (mw-62)	24	5	24	0	0.00%	N/A	N/A	125.9	498.1	22.32	0.177
Chloride (mw-63)	24	5	24	0	0.00%	N/A	N/A	93.88	73.24	8.558	0.0912
Chloride (mw-64)	24	2	24	0	0.00%	N/A	N/A	50.88	5.245	2.29	0.045
Chloride (mw-65)	24	5	24	0	0.00%	N/A	N/A	59.21	343.1	18.52	0.313
Fluoride (mw-62)	27	2	27	0	0.00%	N/A	N/A	1.533	0.148	0.385	0.251
Fluoride (mw-63)	26	3	26	0	0.00%	N/A	N/A	1.892	0.155	0.394	0.208
Fluoride (mw-64)	26	0	26	0	0.00%	N/A	N/A	1.431	0.00542	0.0736	0.0514
Fluoride (mw-65)	26	3	26	0	0.00%	N/A	N/A	1.854	0.0274	0.165	0.0893
Sulfate (mw-62)	24	5	24	0	0.00%	N/A	N/A	3392	50362	224.4	0.0662
Sulfate (mw-63)	24	5	24	0	0.00%	N/A	N/A	2654	236504	486.3	0.183
Sulfate (mw-64)	24	2	24	0	0.00%	N/A	N/A	360.4	12943	113.8	0.316
Sulfate (mw-65)	24	5	24	0	0.00%	N/A	N/A	504.6	22322	149.4	0.296
DissolvedSolids (mw-62)	26	3	26	0	0.00%	N/A	N/A	5588	605062	777.9	0.139
DissolvedSolids (mw-63)	26	3	26	0	0.00%	N/A	N/A	4238	222462	471.7	0.111
DissolvedSolids (mw-64)	26	0	26	0	0.00%	N/A	N/A	781.2	2131	46.16	0.0591
DissolvedSolids (mw-65)	26	3	26	0	0.00%	N/A	N/A	1052	63248	251.5	0.239
Field_pH (mw-62)	28	1	28	0	0.00%	N/A	N/A	6.629	0.0467	0.216	0.0326

Appendix B
Summary Statistics

User Selected Options

Field_pH (mw-63)	29	0	29	0	0.00%	N/A	N/A	6.793	0.0278	0.167	0.0246
Field_pH (mw-64)	26	0	26	0	0.00%	N/A	N/A	7.452	0.0158	0.126	0.0169
Field_pH (mw-65)	29	0	29	0	0.00%	N/A	N/A	7.256	0.0554	0.235	0.0324

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Boron (mw-62)	28	1	1.8	2.5	2.075	2.1	0.0368	0.192	0.297	0.35	0.0924
Boron (mw-63)	27	2	0.83	2	1.55	1.5	0.0887	0.298	0.297	-0.513	0.192
Boron (mw-64)	26	0	0.47	0.67	0.581	0.58	0.00351	0.0592	0.0667	-0.331	0.102
Boron (mw-65)	29	0	0.57	0.98	0.759	0.76	0.00932	0.0965	0.0593	-0.117	0.127
Calcium (mw-62)	27	2	480	590	528.9	530	764.1	27.64	29.65	0.419	0.0523
Calcium (mw-63)	27	2	310	580	508.9	530	3341	57.8	29.65	-1.996	0.114
Calcium (mw-64)	26	0	72	93	85.38	86.5	29.13	5.397	3.706	-1.228	0.0632
Calcium (mw-65)	26	3	82	200	111.2	100	747.3	27.34	14.83	2.04	0.246
Chloride (mw-62)	24	5	82	180	125.9	120	498.1	22.32	14.83	0.952	0.177
Chloride (mw-63)	24	5	77	110	93.88	96	73.24	8.558	5.93	-0.253	0.0912
Chloride (mw-64)	24	2	44	53	50.88	52	5.245	2.29	1.483	-1.658	0.045
Chloride (mw-65)	24	5	48	140	59.21	53	343.1	18.52	1.483	3.949	0.313
Fluoride (mw-62)	27	2	1.2	3.3	1.533	1.5	0.148	0.385	0.148	3.913	0.251
Fluoride (mw-63)	26	3	0.28	2.5	1.892	1.95	0.155	0.394	0.222	-2.718	0.208
Fluoride (mw-64)	26	0	1.3	1.6	1.431	1.4	0.00542	0.0736	0.0741	0.0811	0.0514
Fluoride (mw-65)	26	3	1.5	2.1	1.854	1.9	0.0274	0.165	0.148	-0.733	0.0893
Sulfate (mw-62)	24	5	2800	4000	3392	3350	50362	224.4	74.13	0.365	0.0662
Sulfate (mw-63)	24	5	1500	4300	2654	2700	236504	486.3	148.3	0.956	0.183
Sulfate (mw-64)	24	2	270	870	360.4	345	12943	113.8	37.06	4.184	0.316
Sulfate (mw-65)	24	5	350	980	504.6	460	22322	149.4	59.3	2.003	0.296
DissolvedSolids (mw-62)	26	3	2400	6700	5588	5700	605062	777.9	296.5	-2.78	0.139
DissolvedSolids (mw-63)	26	3	2500	4700	4238	4300	222462	471.7	148.3	-2.596	0.111
DissolvedSolids (mw-64)	26	0	660	890	781.2	790	2131	46.16	14.83	-0.699	0.0591
DissolvedSolids (mw-65)	26	3	540	1900	1052	1000	63248	251.5	88.95	1.598	0.239
Field_pH (mw-62)	28	1	6.36	7.4	6.629	6.61	0.0467	0.216	0.163	1.74	0.0326
Field_pH (mw-63)	29	0	6.53	7.21	6.793	6.78	0.0278	0.167	0.148	0.563	0.0246
Field_pH (mw-64)	26	0	7.22	7.68	7.452	7.46	0.0158	0.126	0.126	-0.0343	0.0169
Field_pH (mw-65)	29	0	6.96	8.27	7.256	7.21	0.0554	0.235	0.119	2.995	0.0324

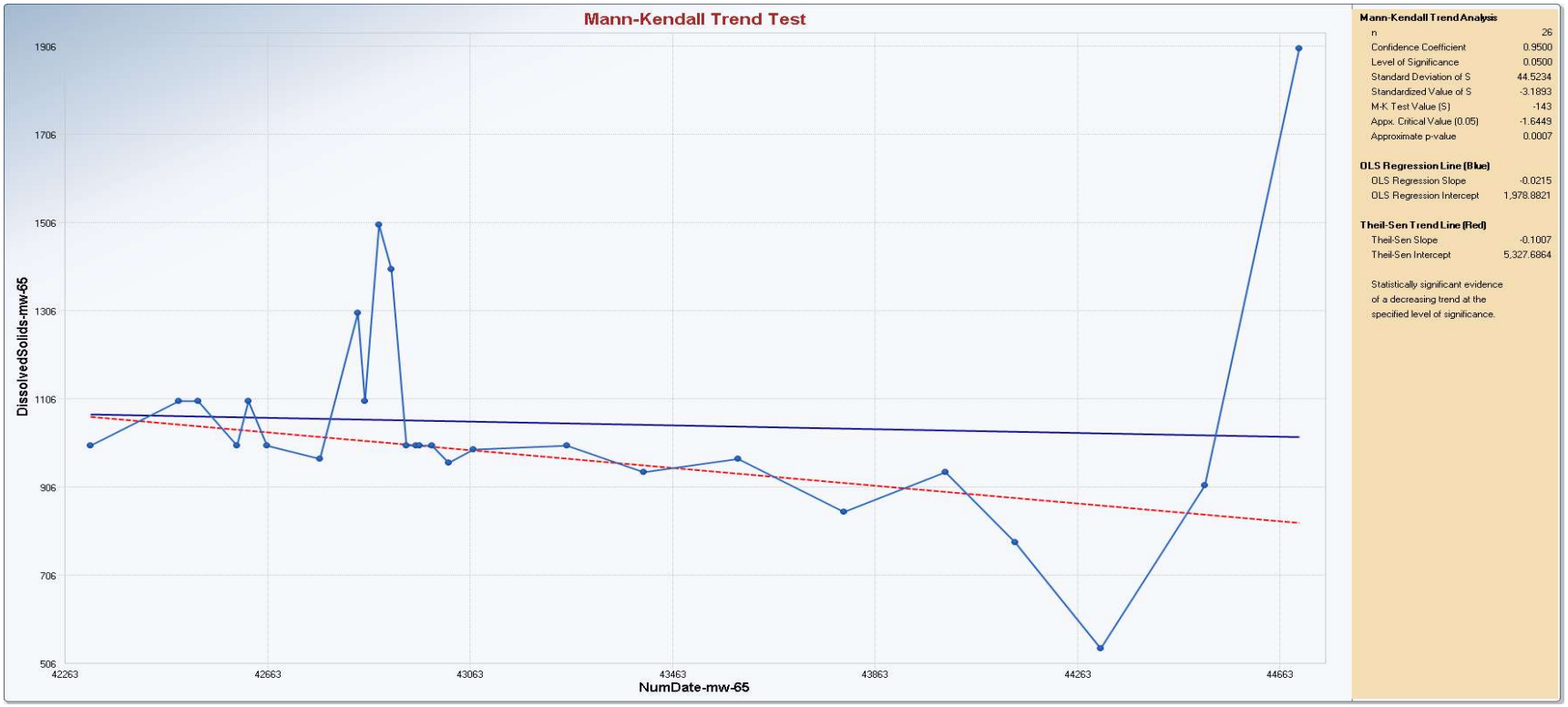
Appendix B
Summary Statistics

User Selected Options

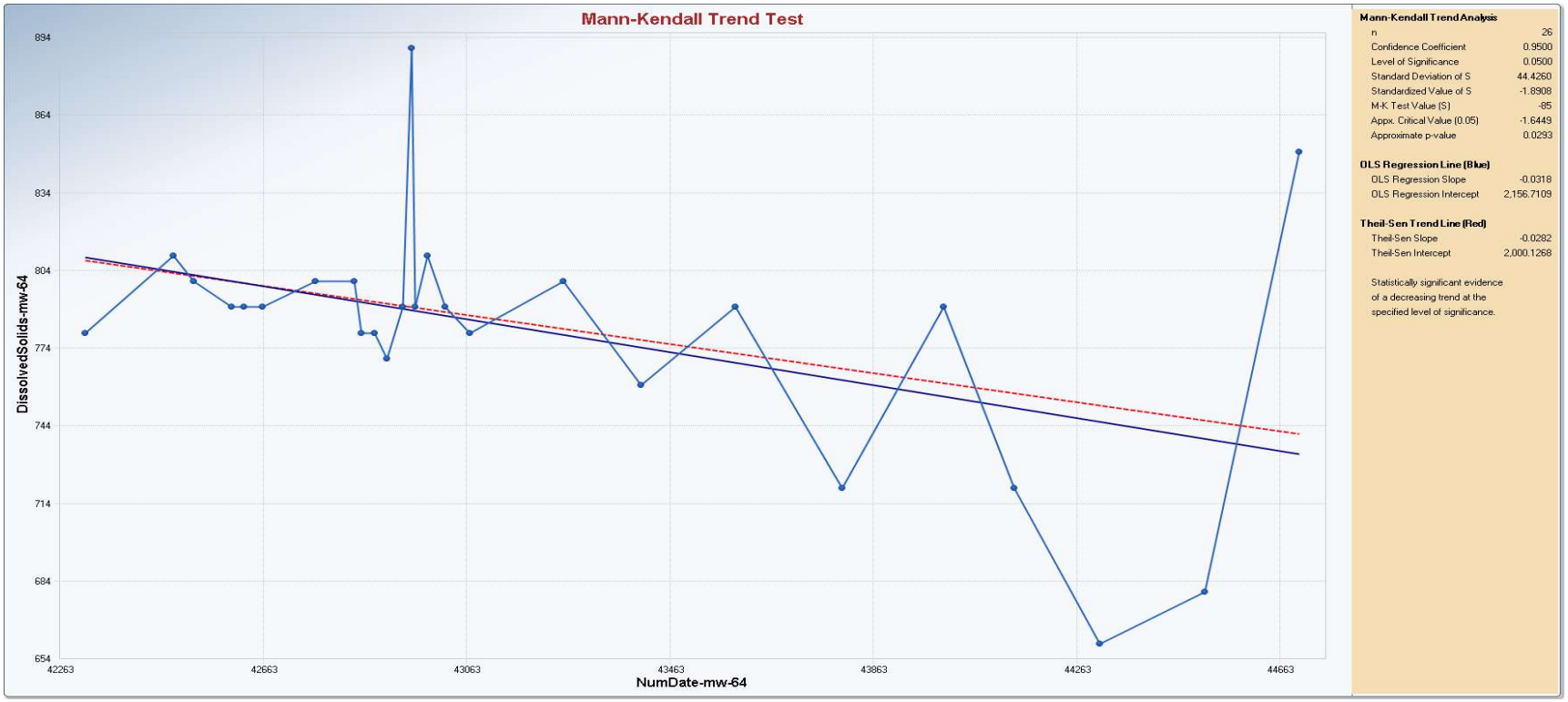
Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Boron (mw-62)	28	1	1.87	1.9	1.9	2.1	2.2	2.26	2.3	2.365	2.473
Boron (mw-63)	27	2	1.3	1.32	1.4	1.5	1.8	1.8	1.9	1.97	2
Boron (mw-64)	26	0	0.495	0.53	0.55	0.58	0.635	0.64	0.645	0.665	0.67
Boron (mw-65)	29	0	0.61	0.686	0.73	0.76	0.8	0.83	0.862	0.9	0.963
Calcium (mw-62)	27	2	496	510	510	530	540	548	570	570	584.8
Calcium (mw-63)	27	2	432	500	500	530	545	550	550	557	574.8
Calcium (mw-64)	26	0	77	82	83.5	86.5	89	89	90	90	92.25
Calcium (mw-65)	26	3	90.5	95	96.5	100	110	110	150	167.5	192.5
Chloride (mw-62)	24	5	110	110	110	120	130	134	150	175.5	180
Chloride (mw-63)	24	5	82.2	88	89.5	96	98.5	100	100	108.5	110
Chloride (mw-64)	24	2	48.3	49.6	50	52	52	52.4	53	53	53
Chloride (mw-65)	24	5	51.3	52	52	53	55.75	58.8	70.1	76.1	125.5
Fluoride (mw-62)	27	2	1.2	1.4	1.4	1.5	1.55	1.6	1.68	1.8	2.91
Fluoride (mw-63)	26	3	1.6	1.8	1.8	1.95	2.075	2.1	2.15	2.35	2.475
Fluoride (mw-64)	26	0	1.35	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.575
Fluoride (mw-65)	26	3	1.65	1.7	1.725	1.9	2	2	2	2	2.075
Sulfate (mw-62)	24	5	3230	3300	3300	3350	3500	3500	3600	3770	3954
Sulfate (mw-63)	24	5	2160	2460	2575	2700	2800	2800	2900	2900	3978
Sulfate (mw-64)	24	2	293	312	320	345	362.5	374	387	390	759.6
Sulfate (mw-65)	24	5	393	410	417.5	460	500	500	731	782.5	936.3
DissolvedSolids (mw-62)	26	3	5150	5400	5425	5700	5900	5900	6050	6550	6700
DissolvedSolids (mw-63)	26	3	3850	4200	4225	4300	4500	4500	4550	4675	4700
DissolvedSolids (mw-64)	26	0	720	770	780	790	800	800	810	840	880
DissolvedSolids (mw-65)	26	3	880	940	962.5	1000	1100	1100	1350	1475	1800
Field_pH (mw-62)	28	1	6.41	6.46	6.49	6.61	6.703	6.722	6.893	6.907	7.268
Field_pH (mw-63)	29	0	6.576	6.666	6.69	6.78	6.88	6.884	7.038	7.082	7.176
Field_pH (mw-64)	26	0	7.29	7.31	7.363	7.46	7.538	7.54	7.61	7.633	7.67
Field_pH (mw-65)	29	0	7.076	7.118	7.13	7.21	7.31	7.354	7.42	7.512	8.06

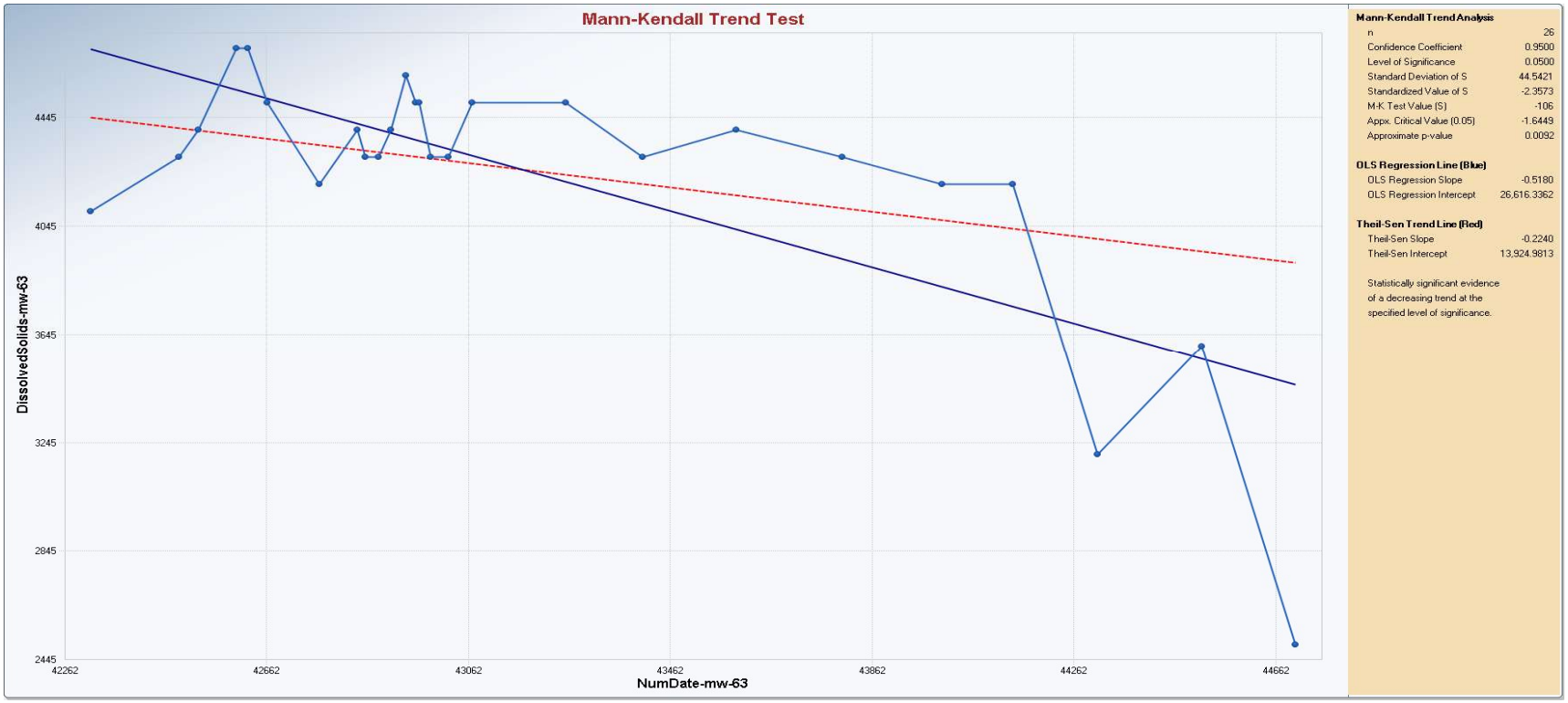
Appendix B
Mann-Kendall Trend Test



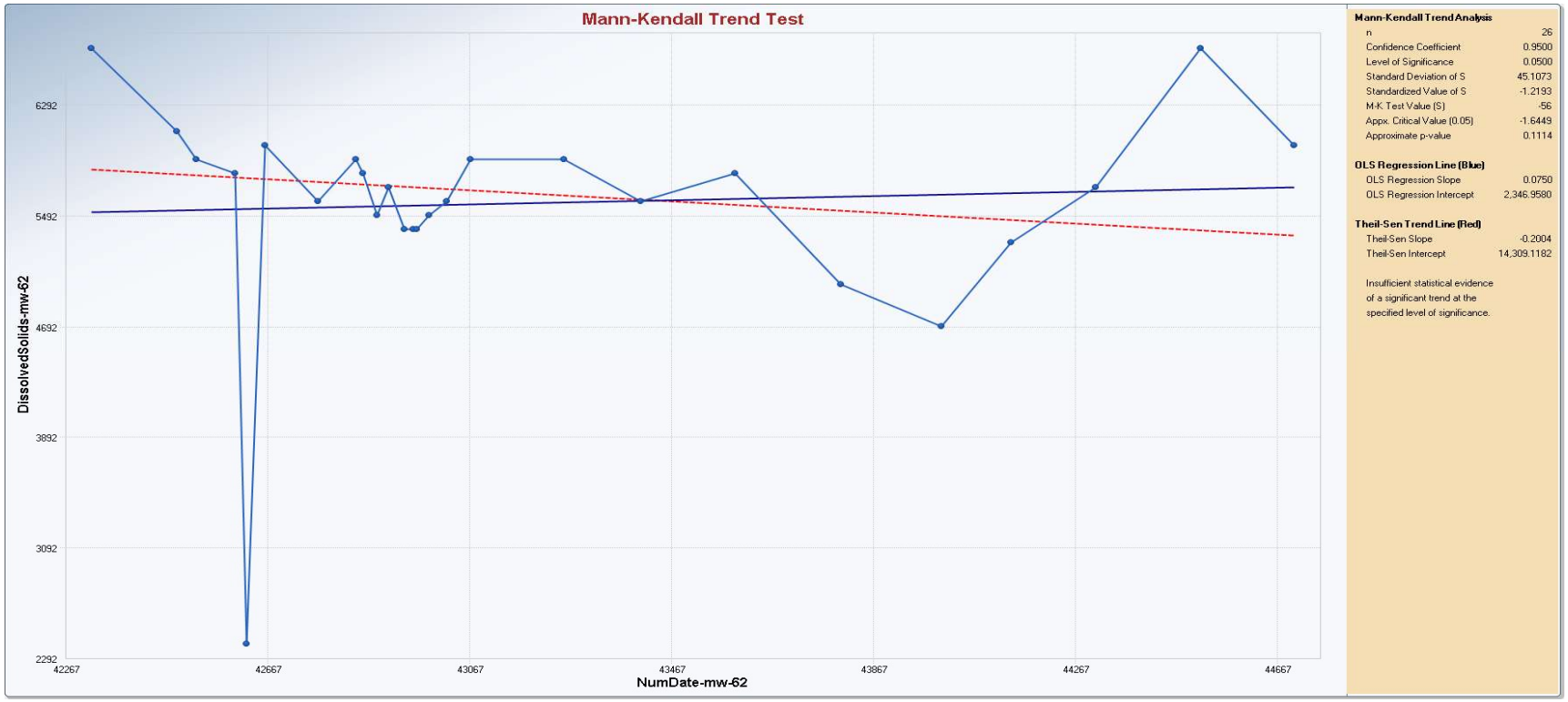
Appendix B
Mann-Kendall Trend Test



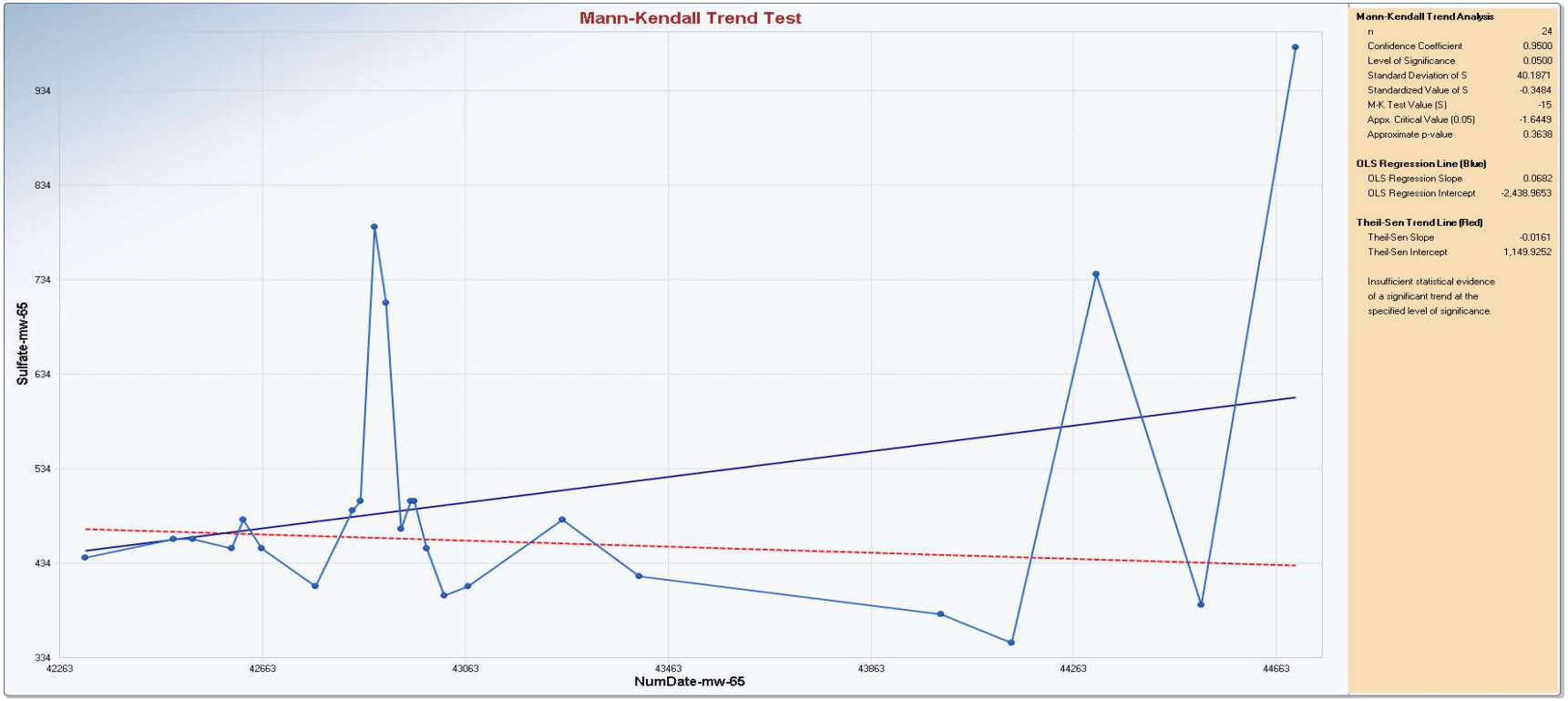
Appendix B
Mann-Kendall Trend Test



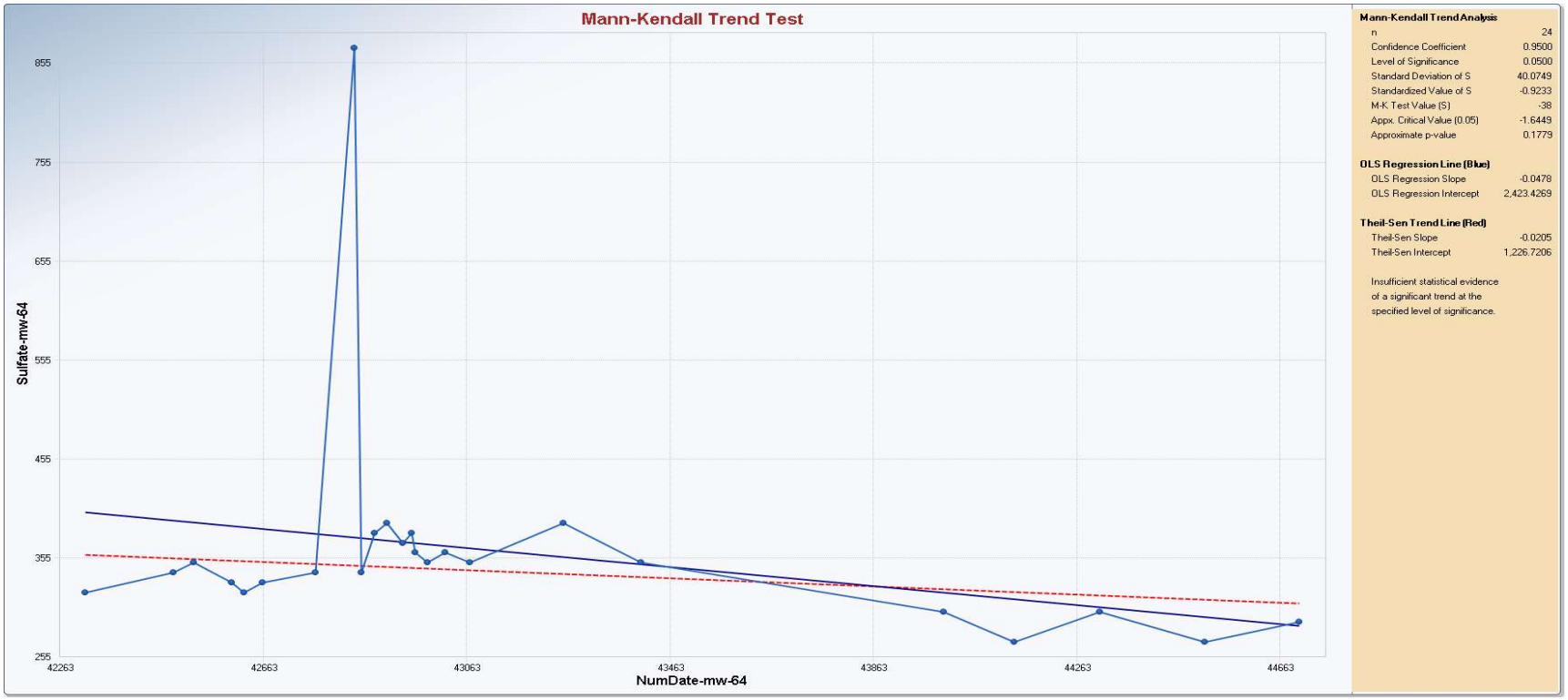
Appendix B
Mann-Kendall Trend Test



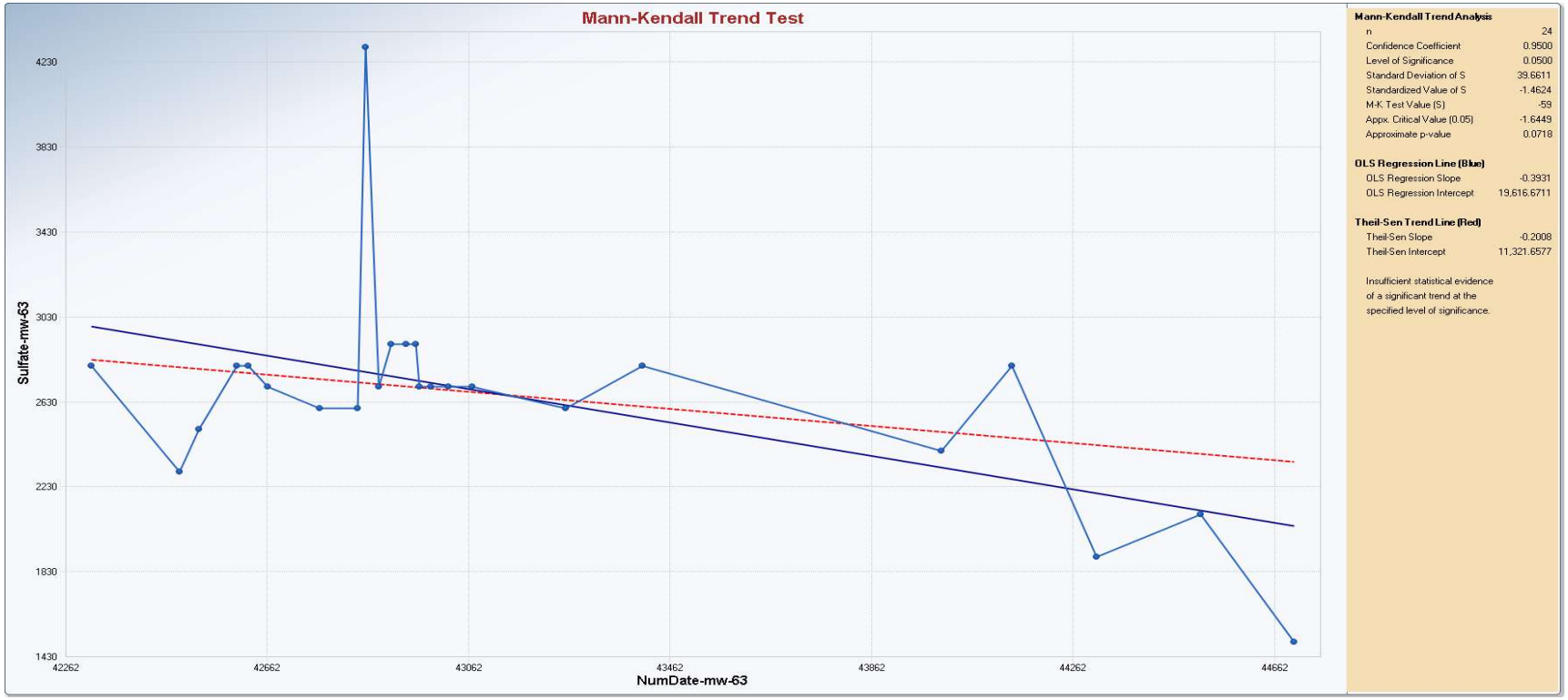
Appendix B
Mann-Kendall Trend Test



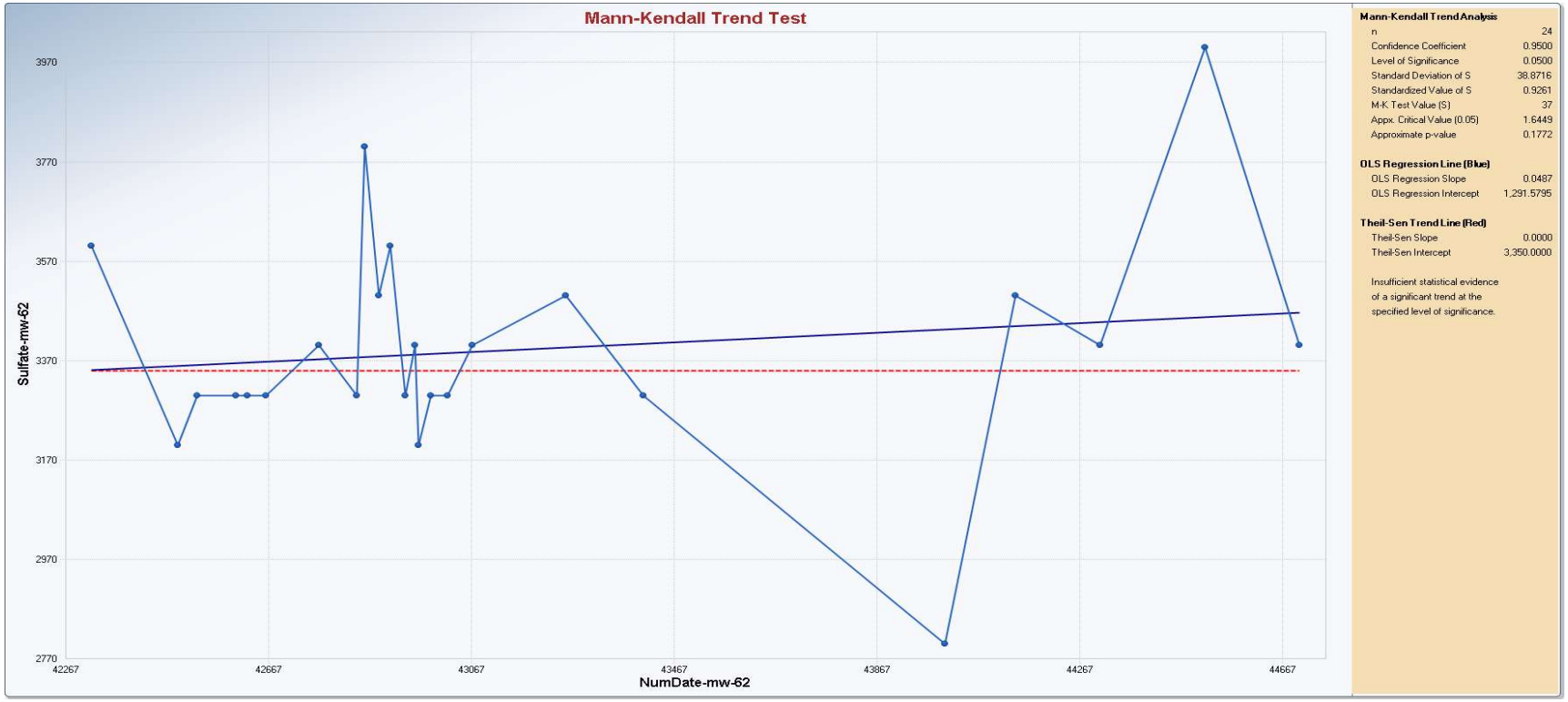
Appendix B
Mann-Kendall Trend Test



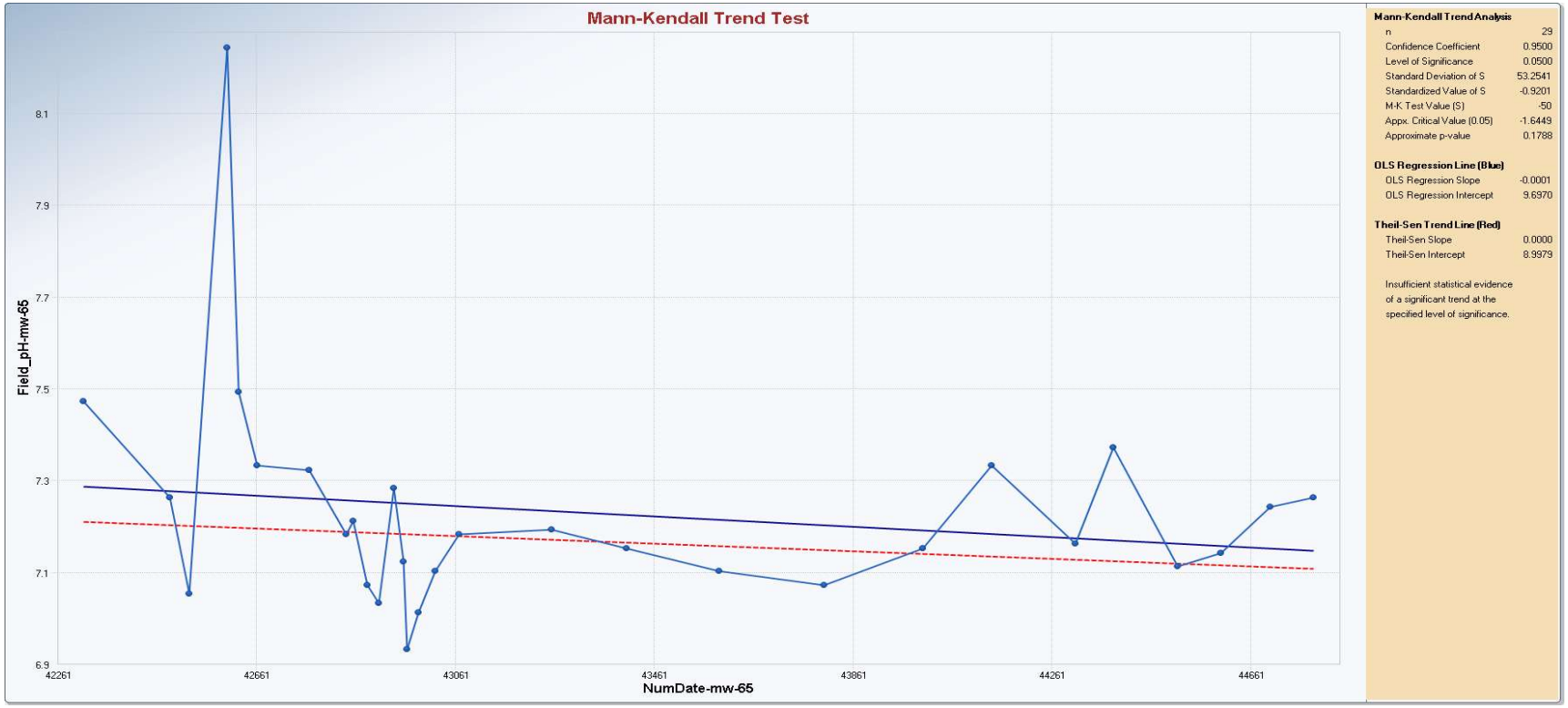
Appendix B
Mann-Kendall Trend Test



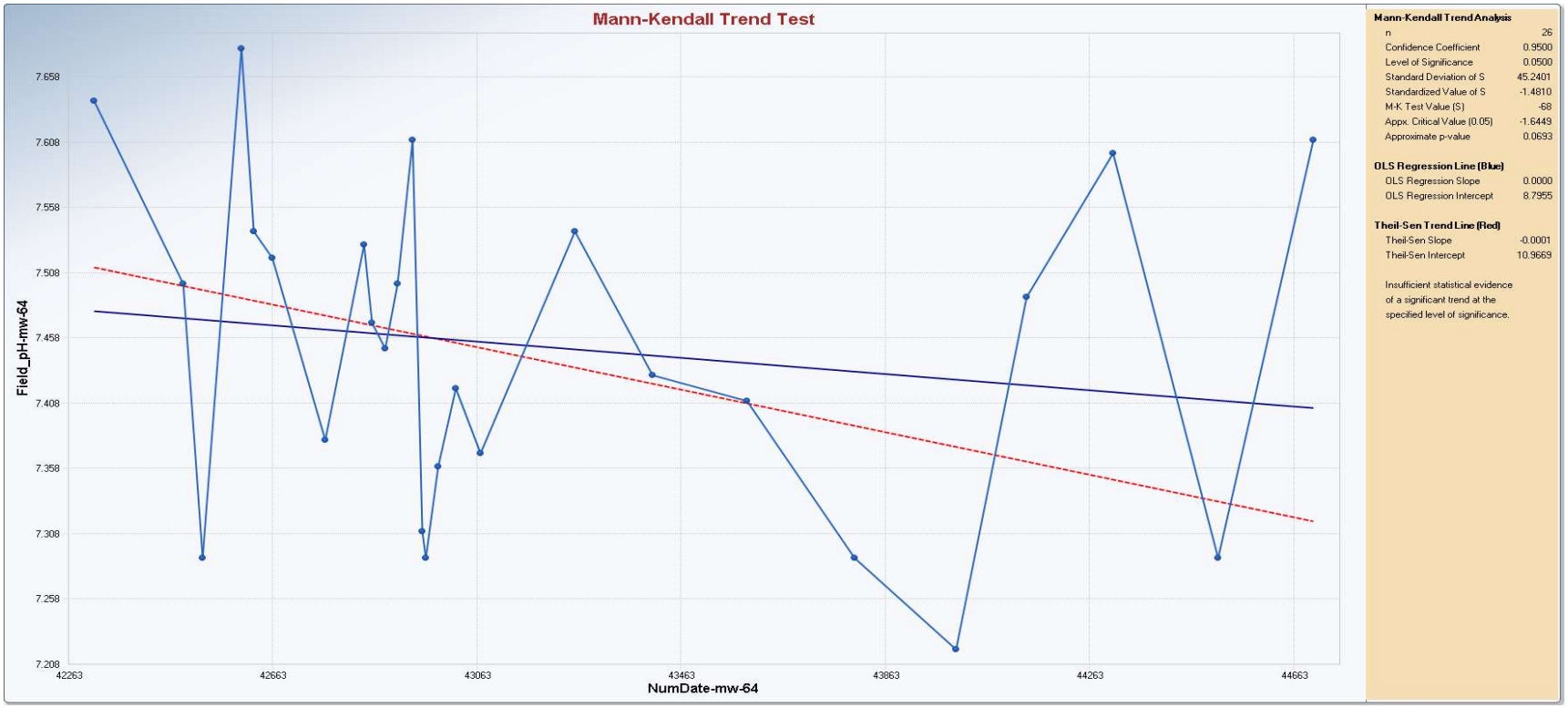
Appendix B
Mann-Kendall Trend Test



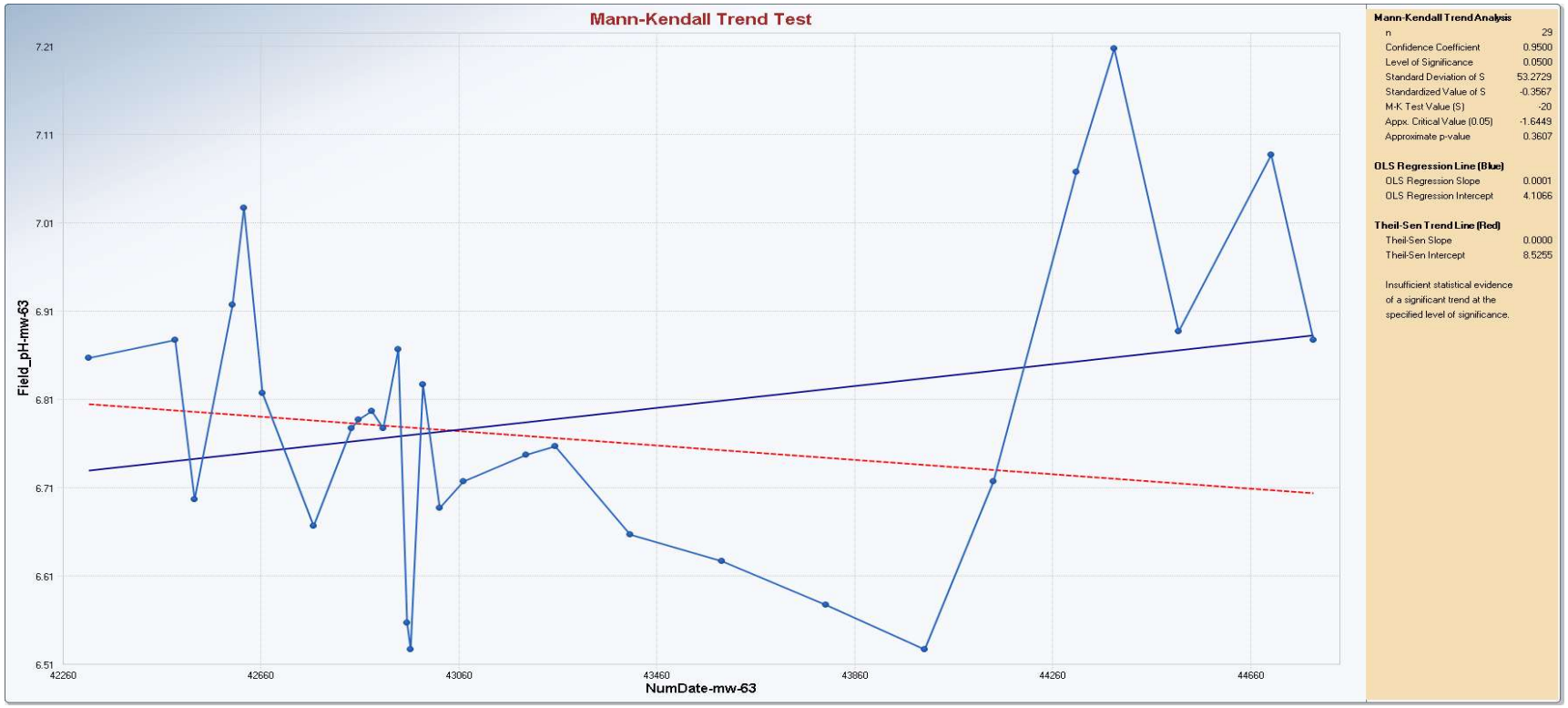
Appendix B
Mann-Kendall Trend Test



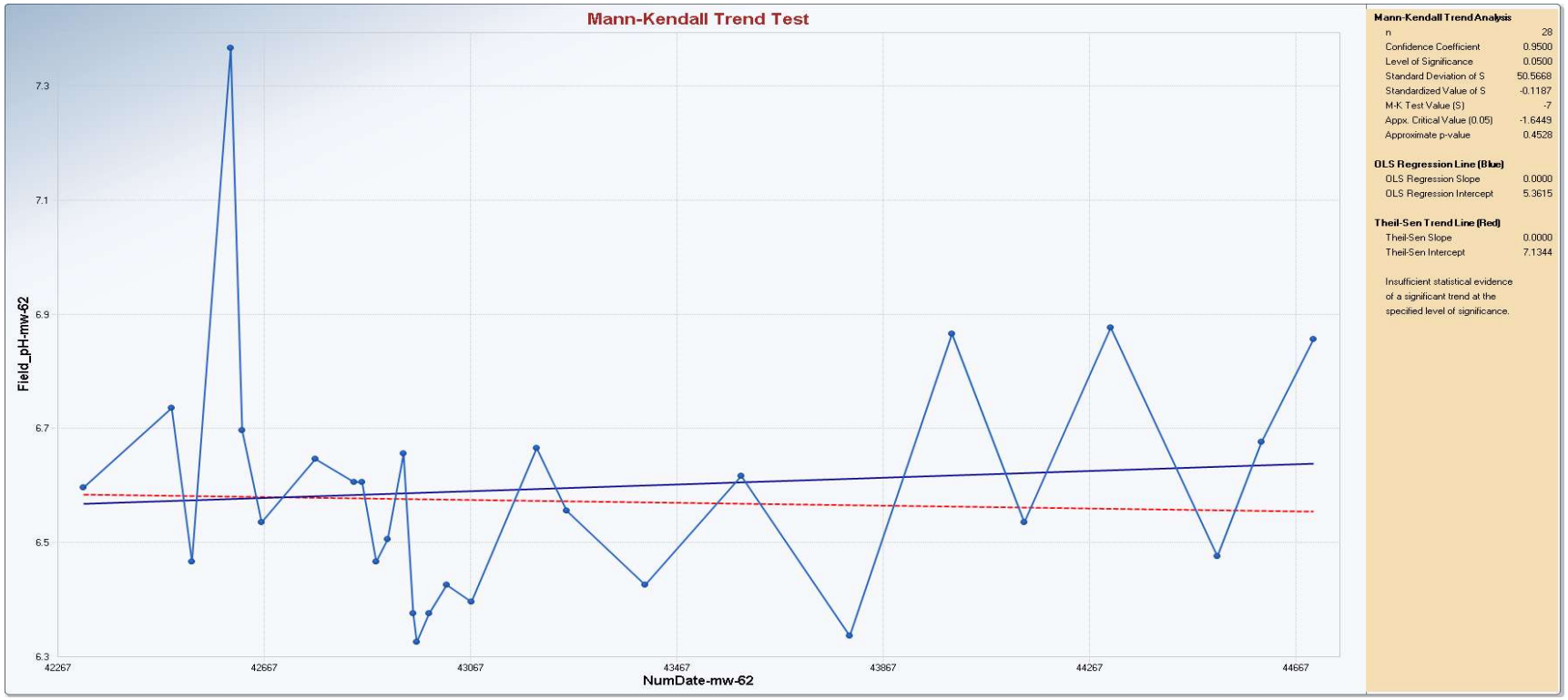
Appendix B
Mann-Kendall Trend Test



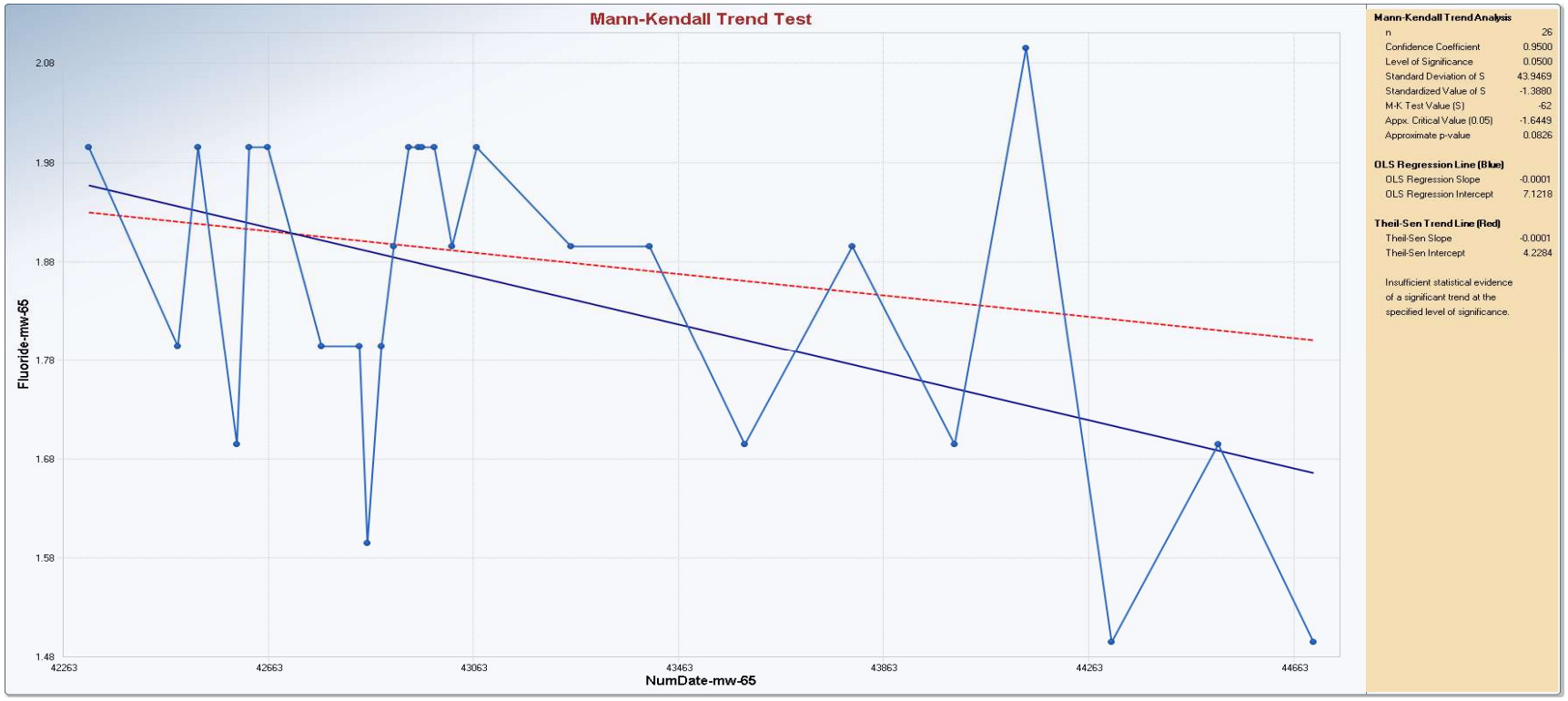
Appendix B
Mann-Kendall Trend Test



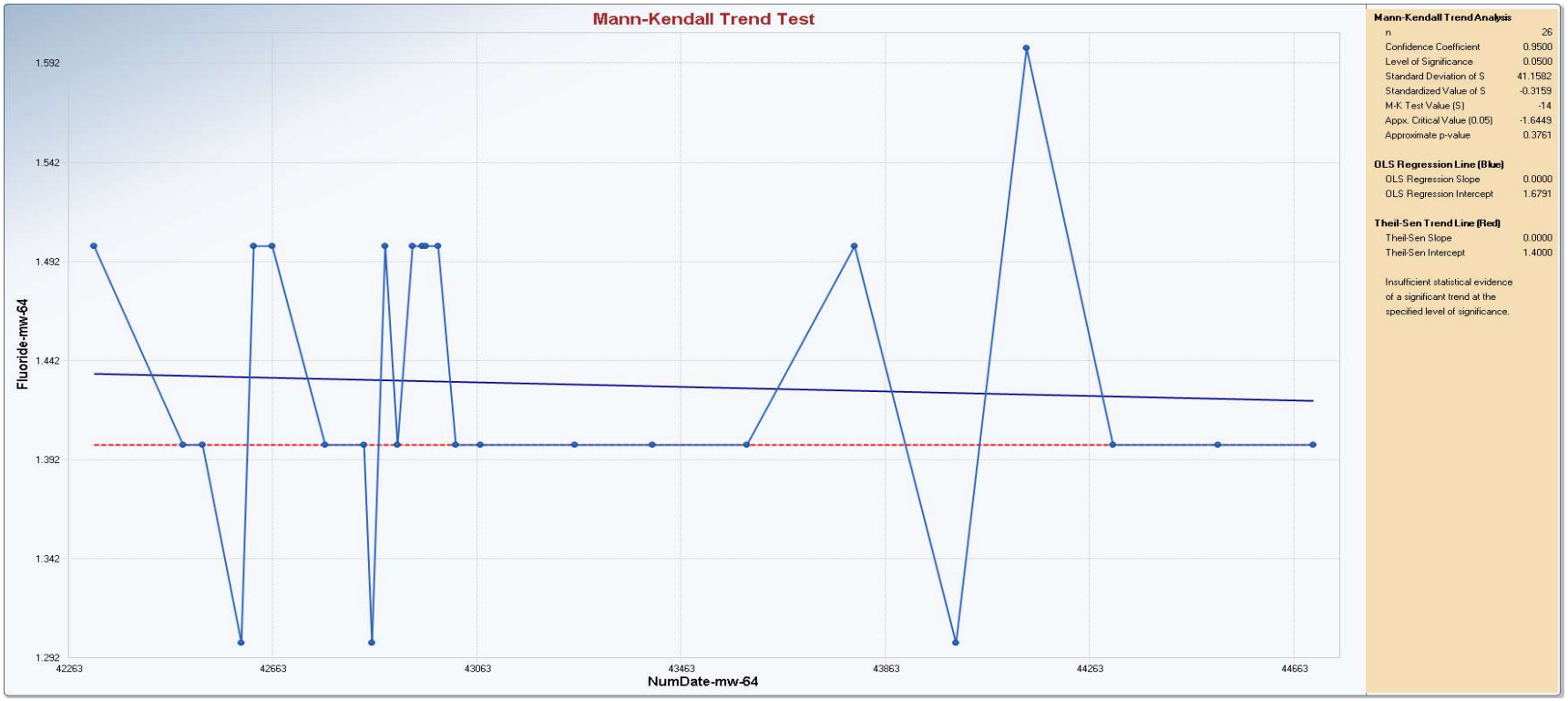
Appendix B
Mann-Kendall Trend Test



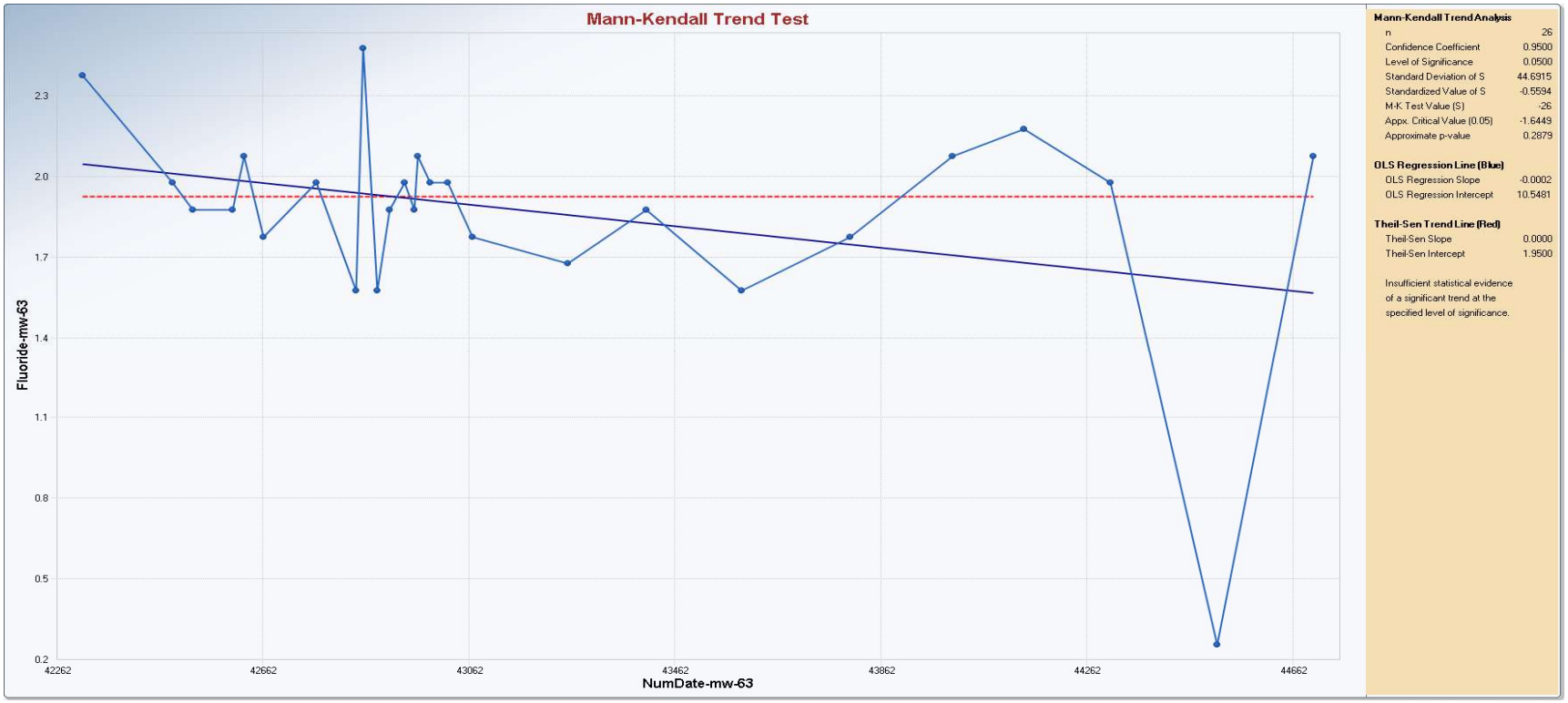
Appendix B
Mann-Kendall Trend Test



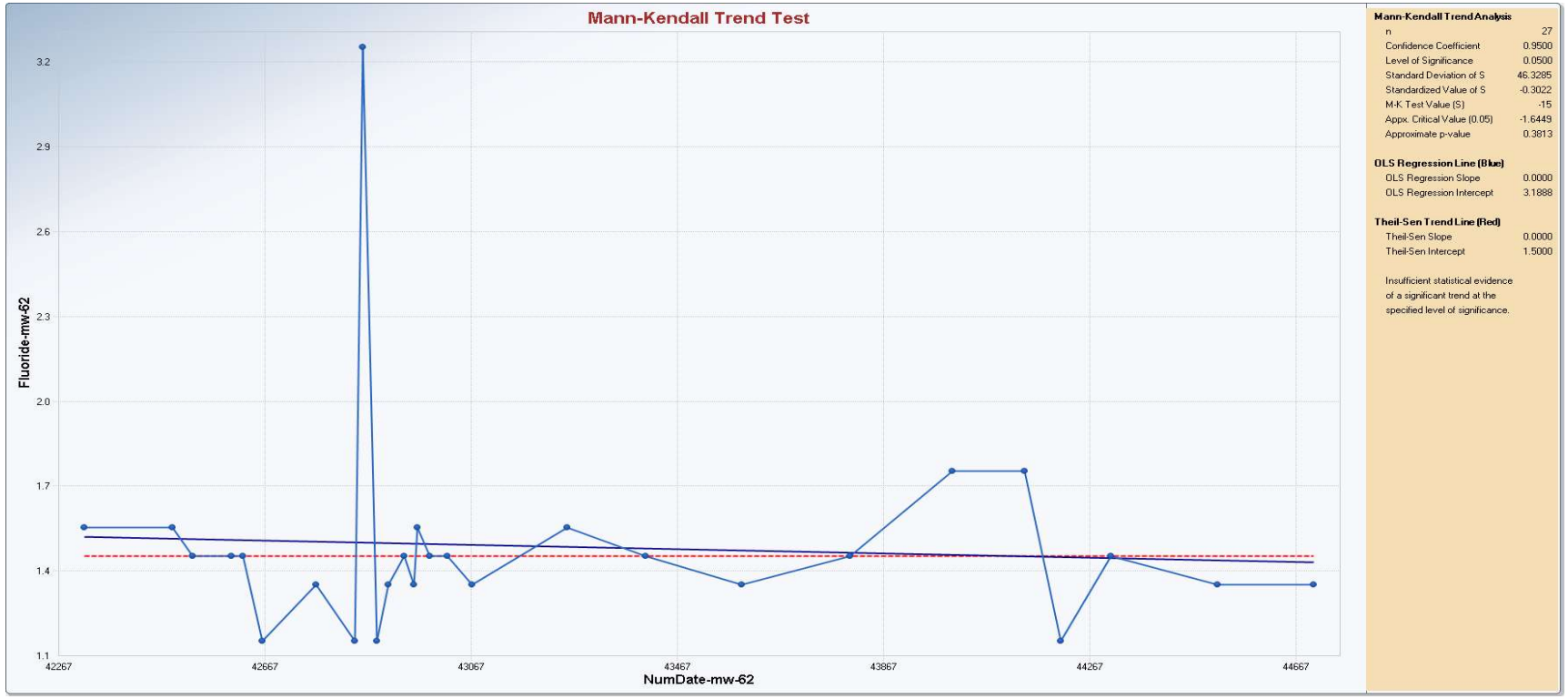
Appendix B
Mann-Kendall Trend Test



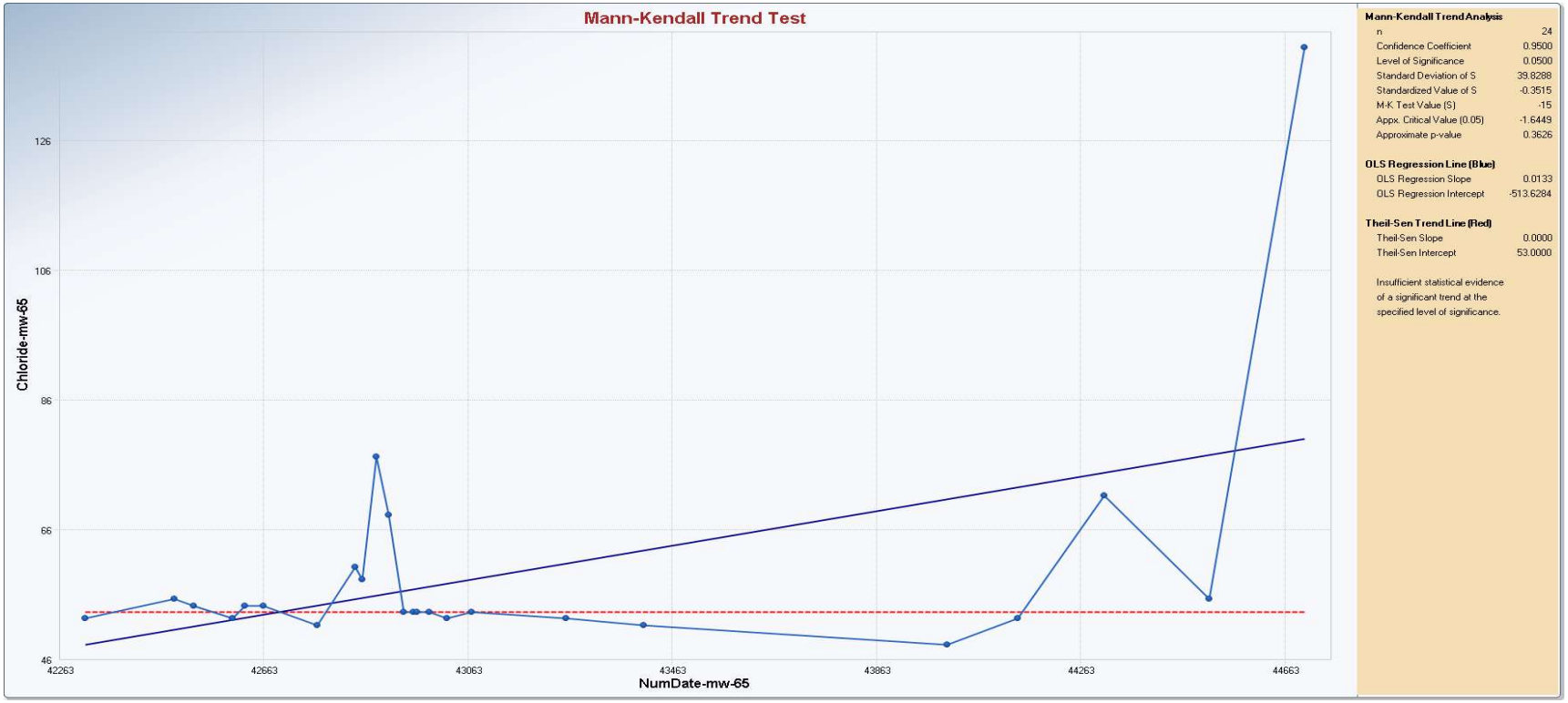
Appendix B
Mann-Kendall Trend Test



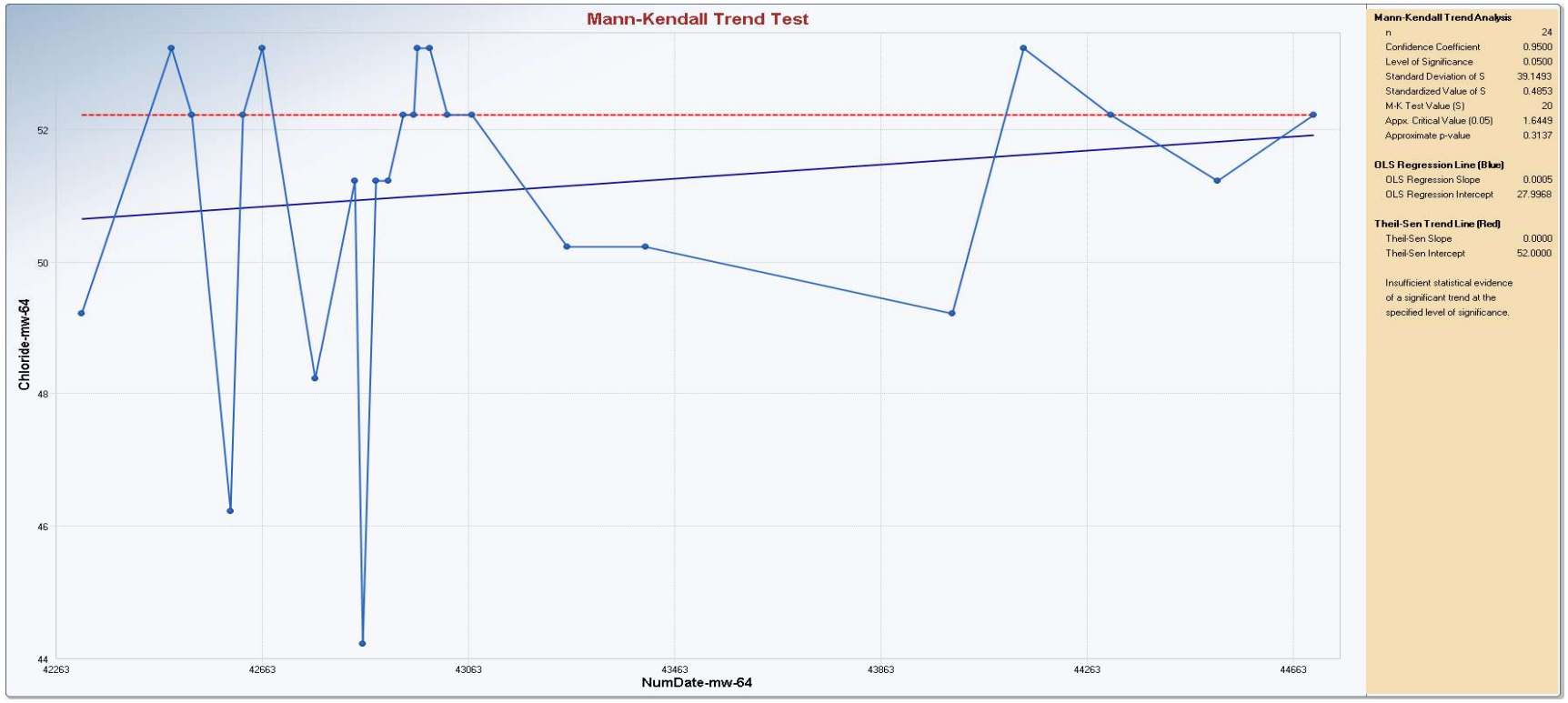
Appendix B
Mann-Kendall Trend Test



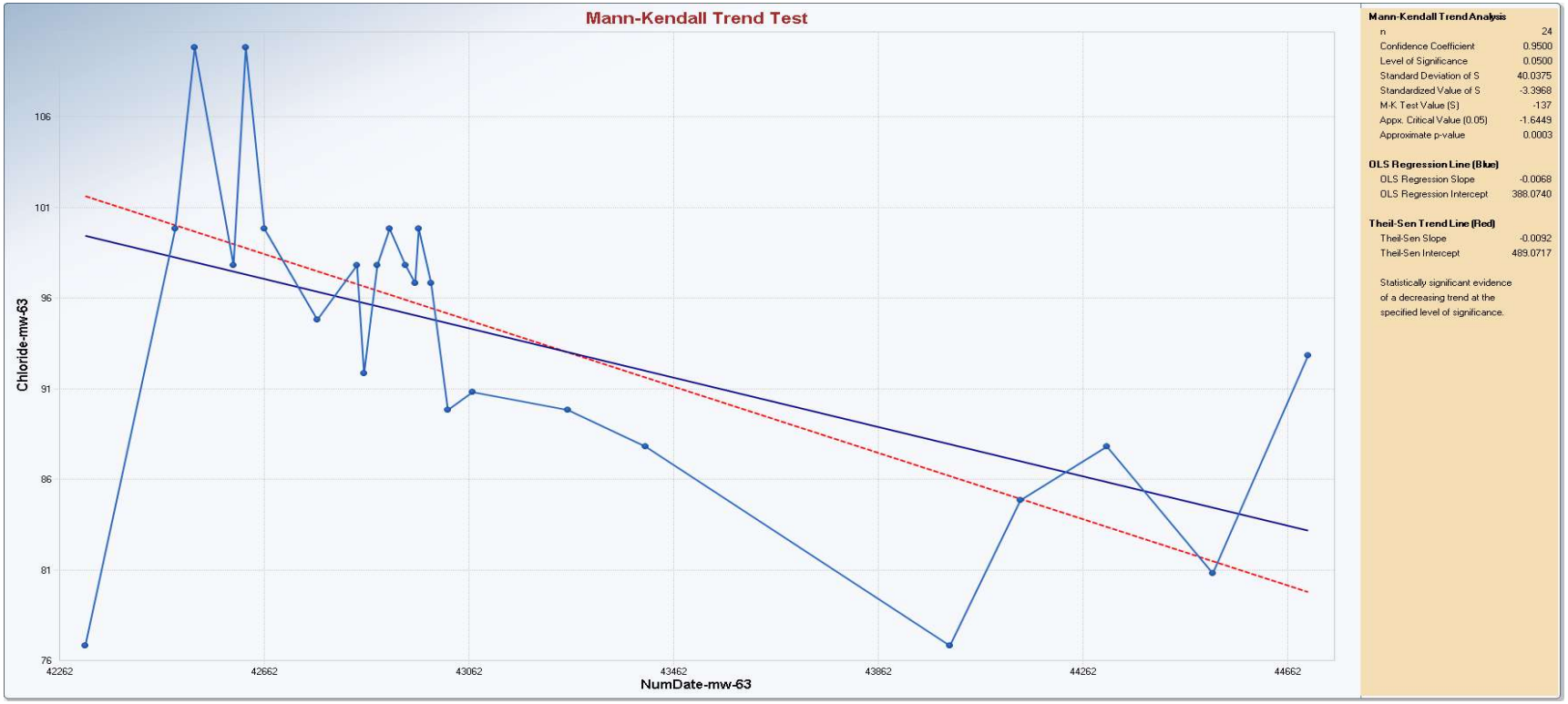
Appendix B
Mann-Kendall Trend Test



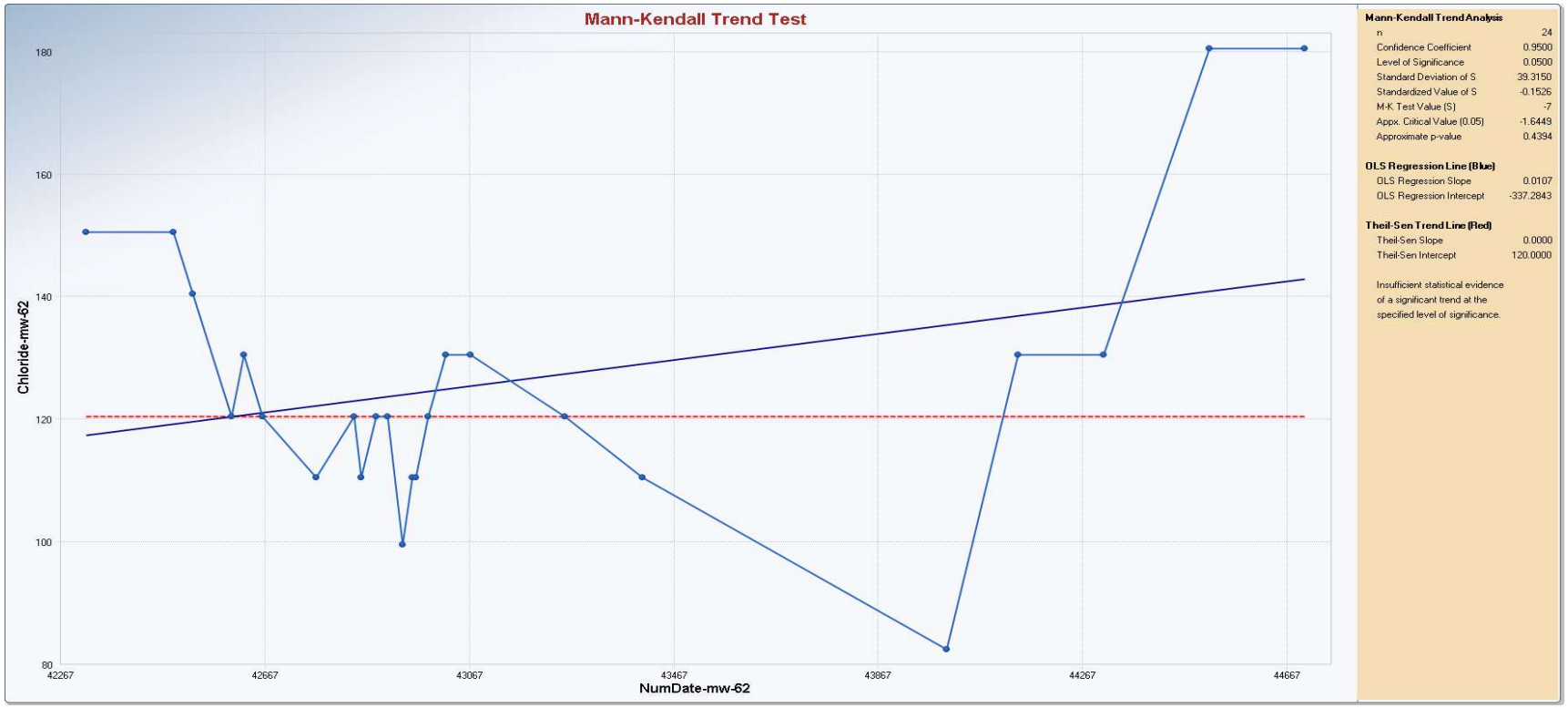
Appendix B
Mann-Kendall Trend Test



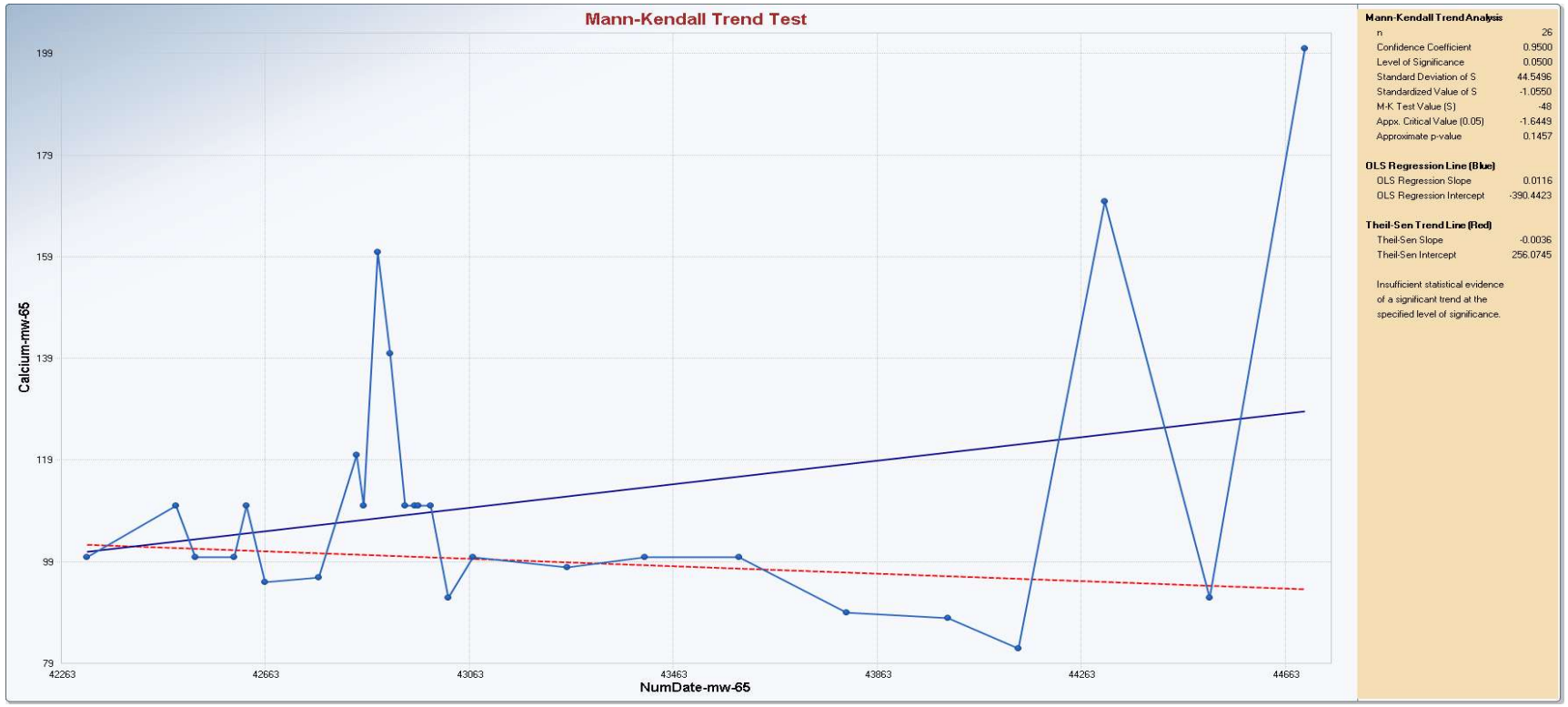
Appendix B
Mann-Kendall Trend Test



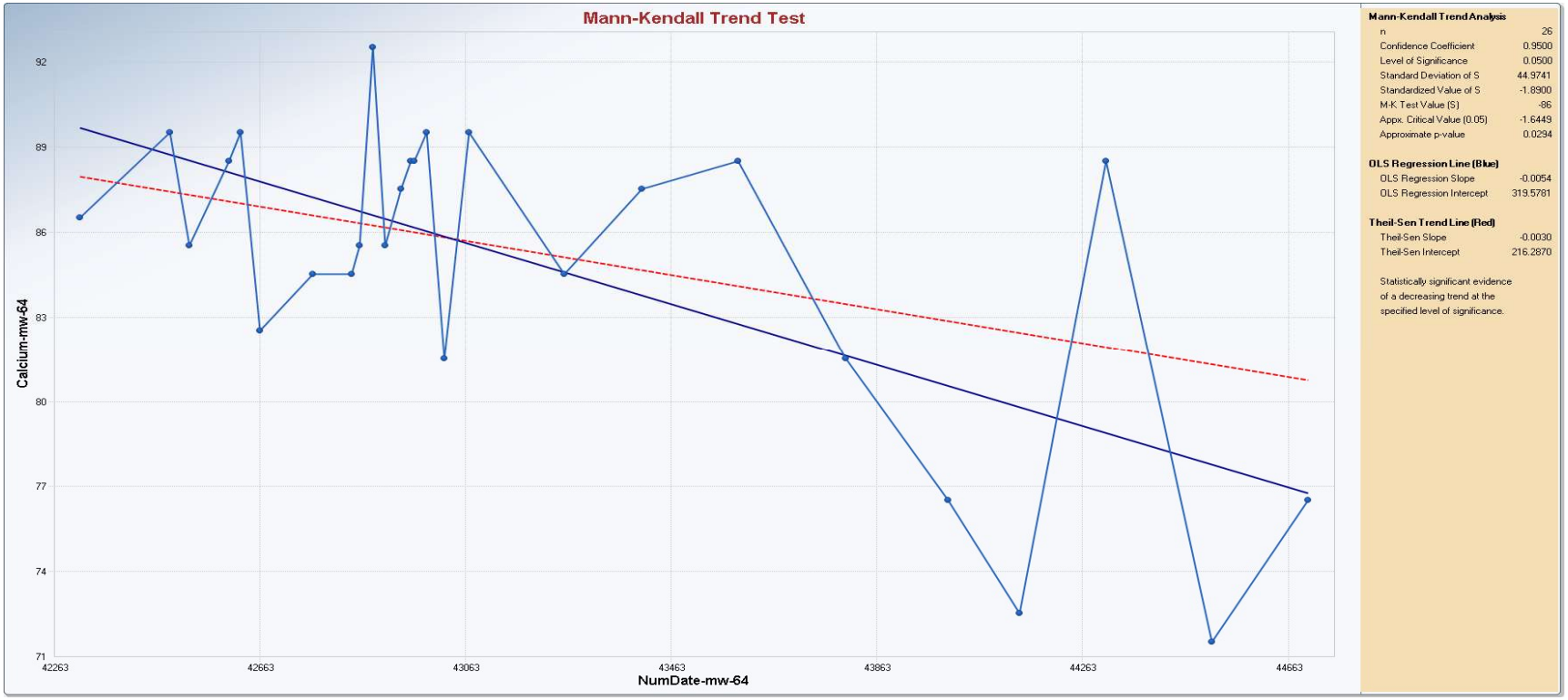
Appendix B
Mann-Kendall Trend Test



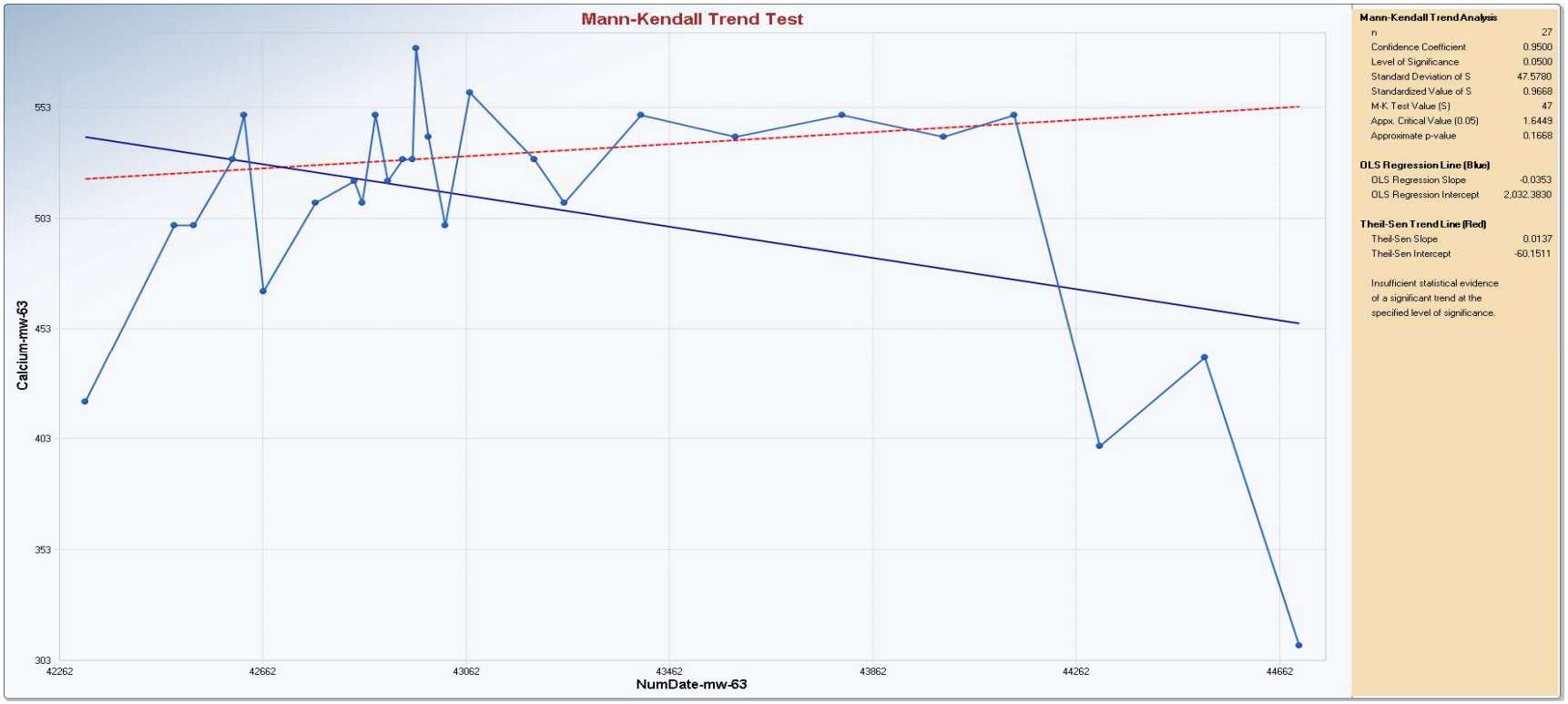
Appendix B
Mann-Kendall Trend Test



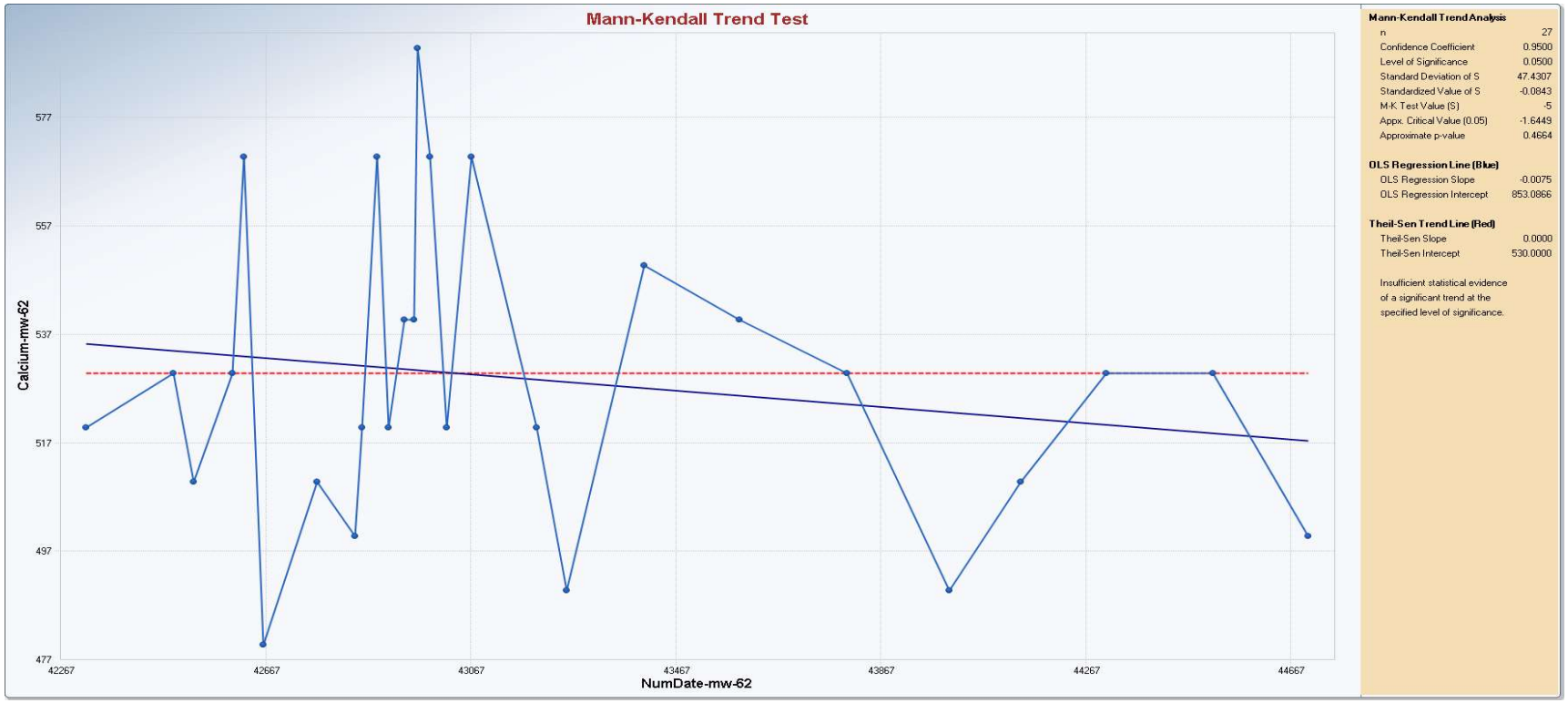
Appendix B
Mann-Kendall Trend Test



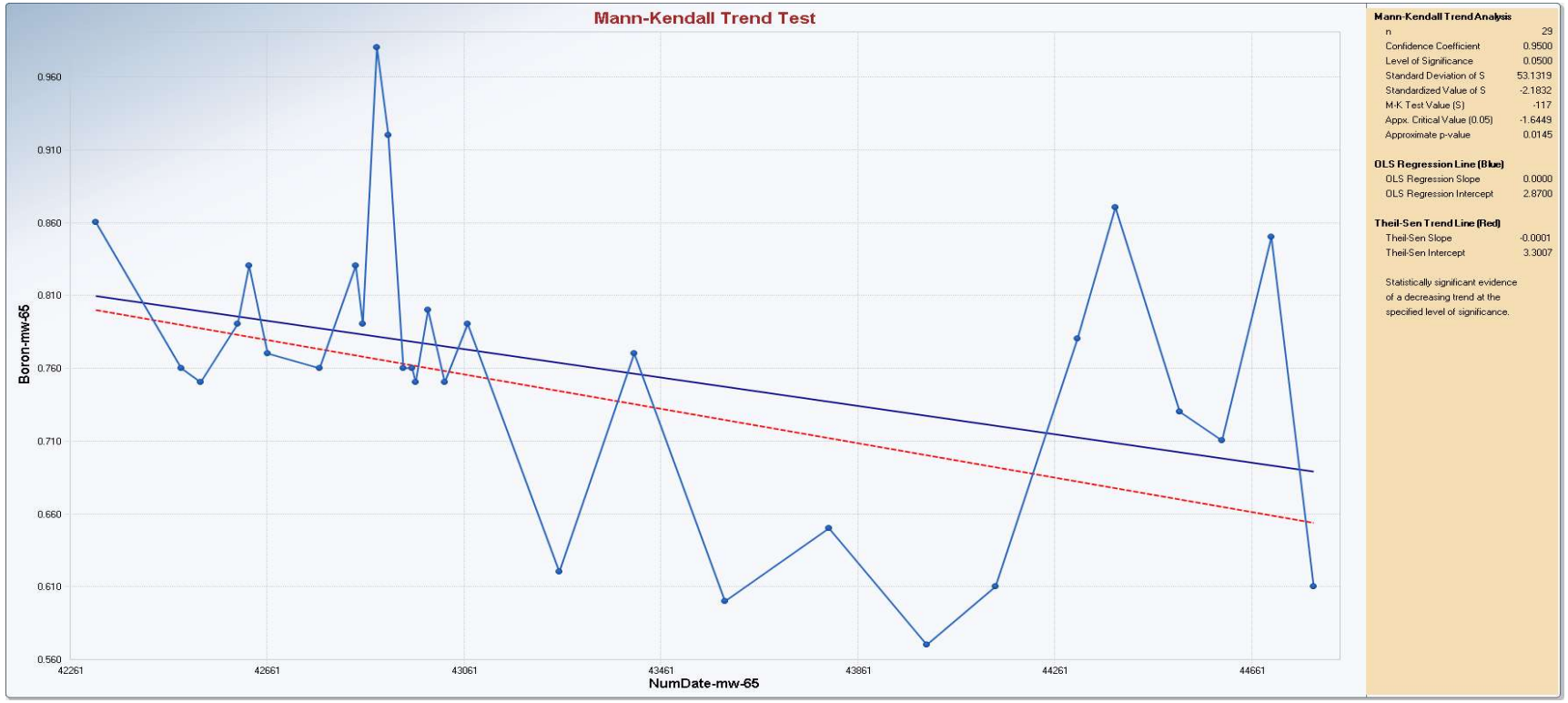
Appendix B
Mann-Kendall Trend Test



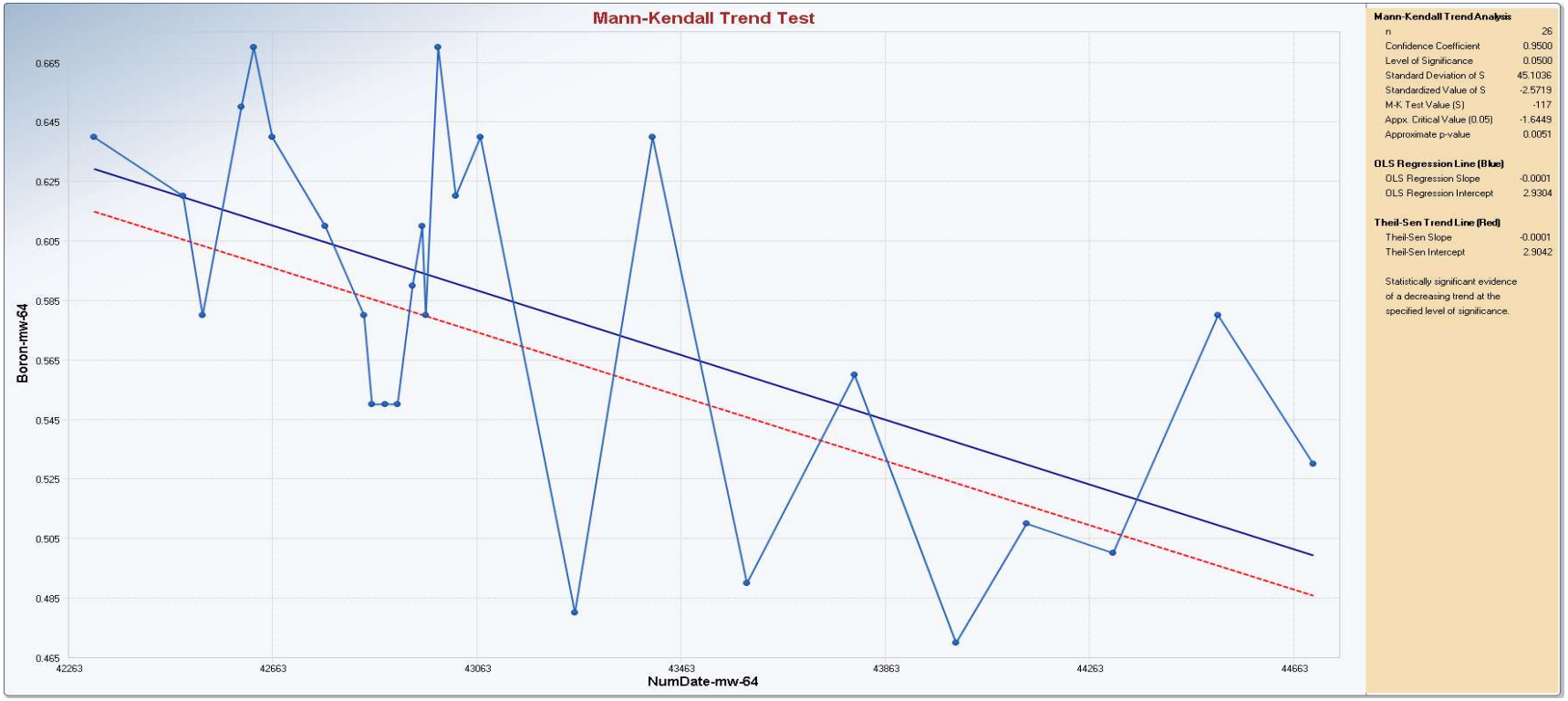
Appendix B
Mann-Kendall Trend Test



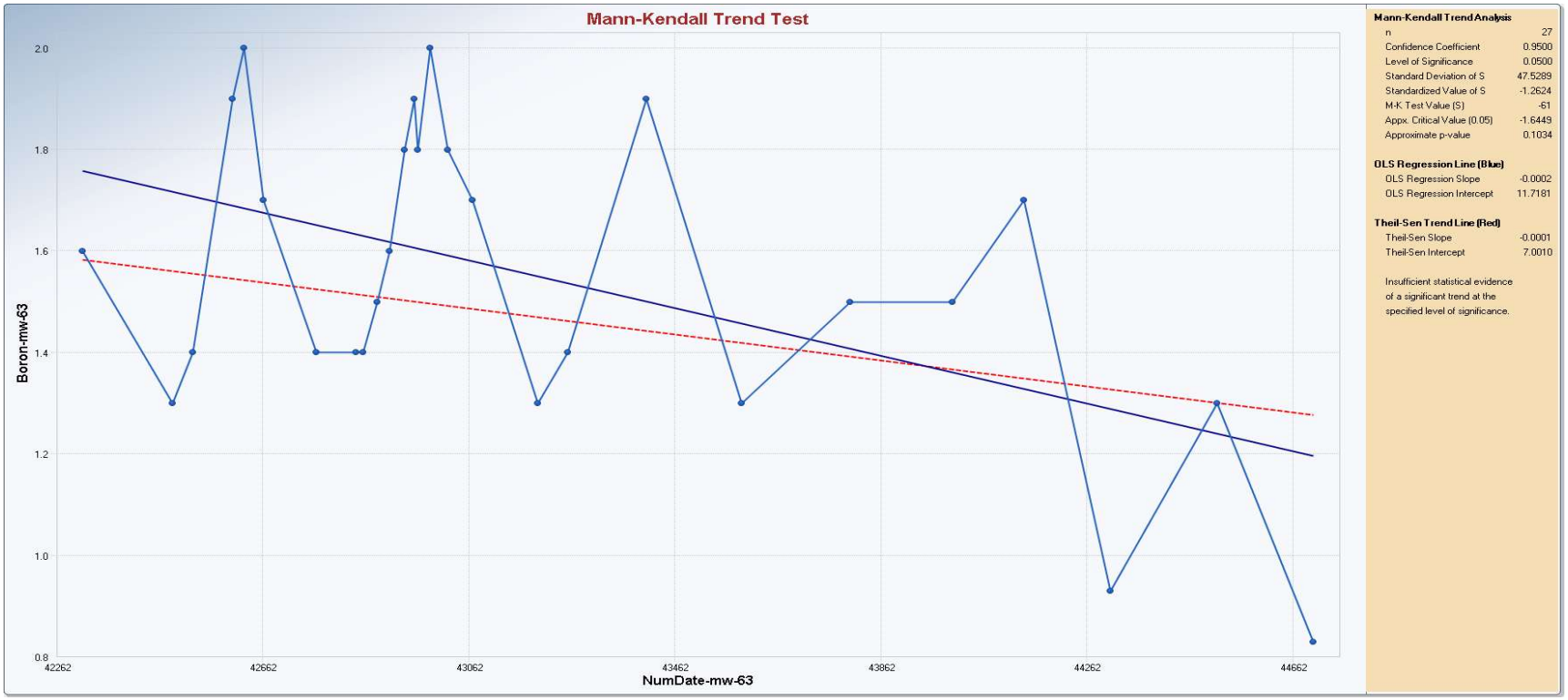
Appendix B
Mann-Kendall Trend Test



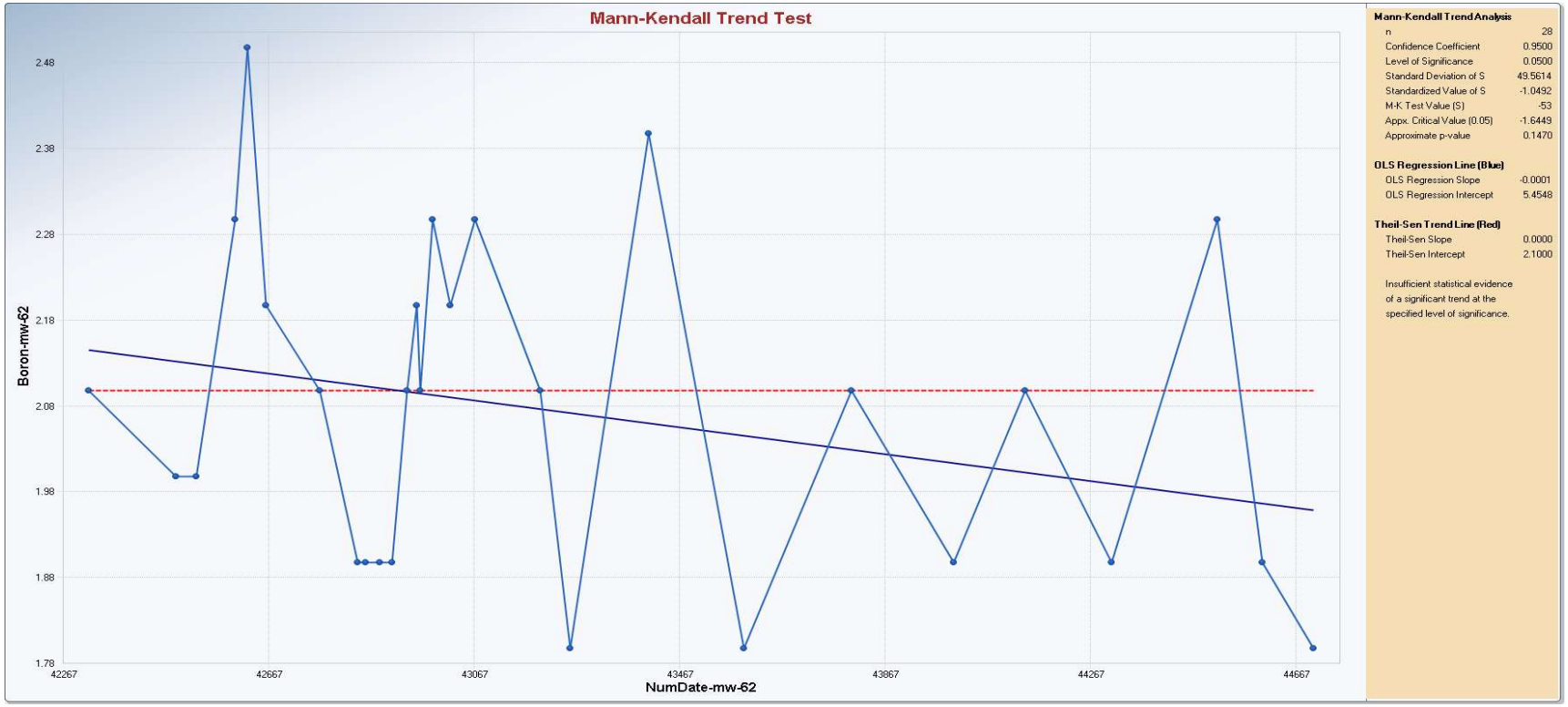
Appendix B
Mann-Kendall Trend Test



Appendix B
Mann-Kendall Trend Test



Appendix B
Mann-Kendall Trend Test



Appendix B
Time Series Statistics

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/1/2022 11:55:40 AM
From File	CWTP_StatsAnalysis_DataFile_2022-08.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Boron-mw-62	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	1
Number or Reported Events Used	28
Number Values Reported (n)	29
Number Values Missing	1
Number Values Used	28
Minimum	1.8
Maximum	2.5
Mean	2.075
Geometric Mean	2.067
Median	2.1
Standard Deviation	0.192
Coefficient of Variation	0.0924
Mann-Kendall Test	
M-K Test Value (S)	-53
Critical Value (0.05)	-1.645
Standard Deviation of S	49.56
Standardized Value of S	-1.049
Approximate p-value	0.147
Insufficient evidence to identify a significant trend at the specified level of significance.	
Boron-mw-63	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	2
Number or Reported Events Used	27

Appendix B
Time Series Statistics

Number Values Reported (n)	29
Number Values Missing	2
Number Values Used	27
Minimum	0.83
Maximum	2
Mean	1.55
Geometric Mean	1.52
Median	1.5
Standard Deviation	0.298
Coefficient of Variation	0.192
Mann-Kendall Test	
M-K Test Value (S)	-61
Critical Value (0.05)	-1.645
Standard Deviation of S	47.53
Standardized Value of S	-1.262
Approximate p-value	0.103
Insufficient evidence to identify a significant trend at the specified level of significance.	
Boron-mw-64	
General Statistics	
Number of Events Reported (m)	26
Number of Missing Events	0
Number or Reported Events Used	26
Number Values Reported (n)	26
Minimum	0.47
Maximum	0.67
Mean	0.581
Geometric Mean	0.578
Median	0.58
Standard Deviation	0.0592
Coefficient of Variation	0.102
Mann-Kendall Test	
M-K Test Value (S)	-117
Critical Value (0.05)	-1.645
Standard Deviation of S	45.1

Appendix B
Time Series Statistics

Standardized Value of S	-2.572
Approximate p-value	0.00506

Statistically significant evidence of a decreasing trend at the specified level of significance.

Boron-mw-65

General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	0
Number or Reported Events Used	29
Number Values Reported (n)	29
Minimum	0.57
Maximum	0.98
Mean	0.759
Geometric Mean	0.753
Median	0.76
Standard Deviation	0.0965
Coefficient of Variation	0.127

Mann-Kendall Test	
M-K Test Value (S)	-117
Critical Value (0.05)	-1.645
Standard Deviation of S	53.13
Standardized Value of S	-2.183
Approximate p-value	0.0145

Statistically significant evidence of a decreasing trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/1/2022 12:07:18 PM
From File	CWTP_StatsAnalysis_DataFile_2022-08.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Calcium-mw-62

Appendix B
Time Series Statistics

General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	2
Number or Reported Events Used	27
Number Values Reported (n)	29
Number Values Missing	2
Number Values Used	27
Minimum	480
Maximum	590
Mean	528.9
Geometric Mean	528.2
Median	530
Standard Deviation	27.64
Coefficient of Variation	0.0523
Mann-Kendall Test	
M-K Test Value (S)	-5
Critical Value (0.05)	-1.645
Standard Deviation of S	47.43
Standardized Value of S	-0.0843
Approximate p-value	0.466
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Calcium-mw-63	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	2
Number or Reported Events Used	27
Number Values Reported (n)	29
Number Values Missing	2
Number Values Used	27
Minimum	310
Maximum	580
Mean	508.9
Geometric Mean	505.1
Median	530
Standard Deviation	57.8

Appendix B
Time Series Statistics

Coefficient of Variation	0.114
Mann-Kendall Test	
M-K Test Value (S)	47
Critical Value (0.05)	1.645
Standard Deviation of S	47.58
Standardized Value of S	0.967
Approximate p-value	0.167
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Calcium-mw-64	
General Statistics	
Number of Events Reported (m)	26
Number of Missing Events	0
Number or Reported Events Used	26
Number Values Reported (n)	26
Minimum	72
Maximum	93
Mean	85.38
Geometric Mean	85.21
Median	86.5
Standard Deviation	5.397
Coefficient of Variation	0.0632
Mann-Kendall Test	
M-K Test Value (S)	-86
Critical Value (0.05)	-1.645
Standard Deviation of S	44.97
Standardized Value of S	-1.89
Approximate p-value	0.0294
Statistically significant evidence of a decreasing	
trend at the specified level of significance.	
Calcium-mw-65	
General Statistics	
Number of Events Reported (m)	29

Appendix B
Time Series Statistics

Number of Missing Events	3
Number or Reported Events Used	26
Number Values Reported (n)	29
Number Values Missing	3
Number Values Used	26
Minimum	82
Maximum	200
Mean	111.2
Geometric Mean	108.7
Median	100
Standard Deviation	27.34
Coefficient of Variation	0.246
Mann-Kendall Test	
M-K Test Value (S)	-48
Critical Value (0.05)	-1.645
Standard Deviation of S	44.55
Standardized Value of S	-1.055
Approximate p-value	0.146
Insufficient evidence to identify a significant trend at the specified level of significance.	

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/1/2022 12:11:10 PM
From File	CWTP_StatsAnalysis_DataFile_2022-08.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Chloride-mw-62	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	5
Number or Reported Events Used	24
Number Values Reported (n)	29
Number Values Missing	5
Number Values Used	24

Appendix B
Time Series Statistics

Minimum	82
Maximum	180
Mean	125.9
Geometric Mean	124.1
Median	120
Standard Deviation	22.32
Coefficient of Variation	0.177
Mann-Kendall Test	
M-K Test Value (S)	-7
Critical Value (0.05)	-1.645
Standard Deviation of S	39.31
Standardized Value of S	-0.153
Approximate p-value	0.439
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Chloride-mw-63	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	5
Number or Reported Events Used	24
Number Values Reported (n)	29
Number Values Missing	5
Number Values Used	24
Minimum	77
Maximum	110
Mean	93.88
Geometric Mean	93.49
Median	96
Standard Deviation	8.558
Coefficient of Variation	0.0912
Mann-Kendall Test	
M-K Test Value (S)	-137
Critical Value (0.05)	-1.645
Standard Deviation of S	40.04
Standardized Value of S	-3.397

Appendix B
Time Series Statistics

Approximate p-value	3.4087E-4
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Chloride-mw-64	
General Statistics	
Number of Events Reported (m)	26
Number of Missing Events	2
Number or Reported Events Used	24
Number Values Reported (n)	26
Number Values Missing	2
Number Values Used	24
Minimum	44
Maximum	53
Mean	50.88
Geometric Mean	50.82
Median	52
Standard Deviation	2.29
Coefficient of Variation	0.045
Mann-Kendall Test	
M-K Test Value (S)	20
Critical Value (0.05)	1.645
Standard Deviation of S	39.15
Standardized Value of S	0.485
Approximate p-value	0.314
Insufficient evidence to identify a significant trend at the specified level of significance.	
Chloride-mw-65	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	5
Number or Reported Events Used	24
Number Values Reported (n)	29
Number Values Missing	5
Number Values Used	24

Appendix B
Time Series Statistics

Minimum	48
Maximum	140
Mean	59.21
Geometric Mean	57.51
Median	53
Standard Deviation	18.52
Coefficient of Variation	0.313
Mann-Kendall Test	
M-K Test Value (S)	-15
Critical Value (0.05)	-1.645
Standard Deviation of S	39.83
Standardized Value of S	-0.352
Approximate p-value	0.363
Insufficient evidence to identify a significant trend at the specified level of significance.	

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/3/2022 8:40:48 PM
From File	CWTP_StatsAnalysis_DataFile_2022-08.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Fluoride-mw-62

General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	2
Number or Reported Events Used	27
Number Values Reported (n)	29
Number Values Missing	2
Number Values Used	27
Minimum	1.2
Maximum	3.3
Mean	1.533
Geometric Mean	1.502
Median	1.5

Appendix B
Time Series Statistics

Standard Deviation	0.385
Coefficient of Variation	0.251
Mann-Kendall Test	
M-K Test Value (S)	-15
Critical Value (0.05)	-1.645
Standard Deviation of S	46.33
Standardized Value of S	-0.302
Approximate p-value	0.381
Insufficient evidence to identify a significant trend at the specified level of significance.	
Fluoride-mw-63	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	3
Number or Reported Events Used	26
Number Values Reported (n)	29
Number Values Missing	3
Number Values Used	26
Minimum	0.28
Maximum	2.5
Mean	1.892
Geometric Mean	1.804
Median	1.95
Standard Deviation	0.394
Coefficient of Variation	0.208
Mann-Kendall Test	
M-K Test Value (S)	-26
Critical Value (0.05)	-1.645
Standard Deviation of S	44.69
Standardized Value of S	-0.559
Approximate p-value	0.288
Insufficient evidence to identify a significant trend at the specified level of significance.	
Fluoride-mw-64	

Appendix B
Time Series Statistics

General Statistics	
Number of Events Reported (m)	26
Number of Missing Events	0
Number or Reported Events Used	26
Number Values Reported (n)	26
Minimum	1.3
Maximum	1.6
Mean	1.431
Geometric Mean	1.429
Median	1.4
Standard Deviation	0.0736
Coefficient of Variation	0.0514
Mann-Kendall Test	
M-K Test Value (S)	-14
Critical Value (0.05)	-1.645
Standard Deviation of S	41.16
Standardized Value of S	-0.316
Approximate p-value	0.376

Insufficient evidence to identify a significant trend at the specified level of significance.

Fluoride-mw-65

General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	3
Number or Reported Events Used	26
Number Values Reported (n)	29
Number Values Missing	3
Number Values Used	26
Minimum	1.5
Maximum	2.1
Mean	1.854
Geometric Mean	1.846
Median	1.9
Standard Deviation	0.165
Coefficient of Variation	0.0893

Appendix B
Time Series Statistics

Mann-Kendall Test	
M-K Test Value (S)	-62
Critical Value (0.05)	-1.645
Standard Deviation of S	43.95
Standardized Value of S	-1.388
Approximate p-value	0.0826

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/3/2022 8:53:58 PM
From File	CWTP_StatsAnalysis_DataFile_2022-08.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Field_pH-mw-62

General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	1
Number or Reported Events Used	28
Number Values Reported (n)	29
Number Values Missing	1
Number Values Used	28
Minimum	6.36
Maximum	7.4
Mean	6.629
Geometric Mean	6.626
Median	6.61
Standard Deviation	0.216
Coefficient of Variation	0.0326

Mann-Kendall Test	
M-K Test Value (S)	-7
Critical Value (0.05)	-1.645
Standard Deviation of S	50.57

Appendix B
Time Series Statistics

Standardized Value of S	-0.119
Approximate p-value	0.453
Insufficient evidence to identify a significant trend at the specified level of significance.	
Field_pH-mw-63	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	0
Number or Reported Events Used	29
Number Values Reported (n)	29
Minimum	6.53
Maximum	7.21
Mean	6.793
Geometric Mean	6.791
Median	6.78
Standard Deviation	0.167
Coefficient of Variation	0.0246
Mann-Kendall Test	
M-K Test Value (S)	-20
Critical Value (0.05)	-1.645
Standard Deviation of S	53.27
Standardized Value of S	-0.357
Approximate p-value	0.361
Insufficient evidence to identify a significant trend at the specified level of significance.	
Field_pH-mw-64	
General Statistics	
Number of Events Reported (m)	26
Number of Missing Events	0
Number or Reported Events Used	26
Number Values Reported (n)	26
Minimum	7.22
Maximum	7.68
Mean	7.452

Appendix B
Time Series Statistics

Geometric Mean	7.451
Median	7.46
Standard Deviation	0.126
Coefficient of Variation	0.0169
Mann-Kendall Test	
M-K Test Value (S)	-68
Critical Value (0.05)	-1.645
Standard Deviation of S	45.24
Standardized Value of S	-1.481
Approximate p-value	0.0693
Insufficient evidence to identify a significant trend at the specified level of significance.	
Field_pH-mw-65	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	0
Number or Reported Events Used	29
Number Values Reported (n)	29
Minimum	6.96
Maximum	8.27
Mean	7.256
Geometric Mean	7.252
Median	7.21
Standard Deviation	0.235
Coefficient of Variation	0.0324
Mann-Kendall Test	
M-K Test Value (S)	-50
Critical Value (0.05)	-1.645
Standard Deviation of S	53.25
Standardized Value of S	-0.92
Approximate p-value	0.179
Insufficient evidence to identify a significant trend at the specified level of significance.	
Mann-Kendall Trend Test Analysis	

Appendix B
Time Series Statistics

User Selected Options	
Date/Time of Computation	ProUCL 5.19/3/2022 8:42:49 PM
From File	CWTP_StatsAnalysis_DataFile_2022-08.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Sulfate-mw-62

General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	5
Number or Reported Events Used	24
Number Values Reported (n)	29
Number Values Missing	5
Number Values Used	24
Minimum	2800
Maximum	4000
Mean	3392
Geometric Mean	3385
Median	3350
Standard Deviation	224.4
Coefficient of Variation	0.0662

Mann-Kendall Test	
M-K Test Value (S)	37
Critical Value (0.05)	1.645
Standard Deviation of S	38.87
Standardized Value of S	0.926
Approximate p-value	0.177

Insufficient evidence to identify a significant trend at the specified level of significance.

Sulfate-mw-63

General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	5
Number or Reported Events Used	24

Appendix B
Time Series Statistics

Number Values Reported (n)	29
Number Values Missing	5
Number Values Used	24
Minimum	1500
Maximum	4300
Mean	2654
Geometric Mean	2612
Median	2700
Standard Deviation	486.3
Coefficient of Variation	0.183
Mann-Kendall Test	
M-K Test Value (S)	-59
Critical Value (0.05)	-1.645
Standard Deviation of S	39.66
Standardized Value of S	-1.462
Approximate p-value	0.0718
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Sulfate-mw-64	
General Statistics	
Number of Events Reported (m)	26
Number of Missing Events	2
Number or Reported Events Used	24
Number Values Reported (n)	26
Number Values Missing	2
Number Values Used	24
Minimum	270
Maximum	870
Mean	360.4
Geometric Mean	350.1
Median	345
Standard Deviation	113.8
Coefficient of Variation	0.316
Mann-Kendall Test	
M-K Test Value (S)	-38

Appendix B
Time Series Statistics

Critical Value (0.05)	-1.645
Standard Deviation of S	40.07
Standardized Value of S	-0.923
Approximate p-value	0.178

Insufficient evidence to identify a significant trend at the specified level of significance.

Sulfate-mw-65

General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	5
Number or Reported Events Used	24
Number Values Reported (n)	29
Number Values Missing	5
Number Values Used	24
Minimum	350
Maximum	980
Mean	504.6
Geometric Mean	488.2
Median	460
Standard Deviation	149.4
Coefficient of Variation	0.296

Mann-Kendall Test	
M-K Test Value (S)	-15
Critical Value (0.05)	-1.645
Standard Deviation of S	40.19
Standardized Value of S	-0.348
Approximate p-value	0.364

Insufficient evidence to identify a significant trend at the specified level of significance.

Mann-Kendall Trend Test Analysis	
User Selected Options	
Date/Time of Computation	ProUCL 5.19/3/2022 8:50:33 PM
From File	CWTP_StatsAnalysis_DataFile_2022-08.xls
Full Precision	OFF
Confidence Coefficient	0.95

Appendix B
Time Series Statistics

Level of Significance	0.05
DissolvedSolids-mw-62	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	3
Number or Reported Events Used	26
Number Values Reported (n)	29
Number Values Missing	3
Number Values Used	26
Minimum	2400
Maximum	6700
Mean	5588
Geometric Mean	5514
Median	5700
Standard Deviation	777.9
Coefficient of Variation	0.139
Mann-Kendall Test	
M-K Test Value (S)	-56
Critical Value (0.05)	-1.645
Standard Deviation of S	45.11
Standardized Value of S	-1.219
Approximate p-value	0.111
Insufficient evidence to identify a significant trend at the specified level of significance.	
DissolvedSolids-mw-63	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	3
Number or Reported Events Used	26
Number Values Reported (n)	29
Number Values Missing	3
Number Values Used	26
Minimum	2500
Maximum	4700

Appendix B
Time Series Statistics

Mean	4238
Geometric Mean	4207
Median	4300
Standard Deviation	471.7
Coefficient of Variation	0.111
Mann-Kendall Test	
M-K Test Value (S)	-106
Critical Value (0.05)	-1.645
Standard Deviation of S	44.54
Standardized Value of S	-2.357
Approximate p-value	0.0092
Statistically significant evidence of a decreasing	
trend at the specified level of significance.	
DissolvedSolids-mw-64	
General Statistics	
Number of Events Reported (m)	26
Number of Missing Events	0
Number or Reported Events Used	26
Number Values Reported (n)	26
Minimum	660
Maximum	890
Mean	781.2
Geometric Mean	779.8
Median	790
Standard Deviation	46.16
Coefficient of Variation	0.0591
Mann-Kendall Test	
M-K Test Value (S)	-85
Critical Value (0.05)	-1.645
Standard Deviation of S	44.43
Standardized Value of S	-1.891
Approximate p-value	0.0293
Statistically significant evidence of a decreasing	
trend at the specified level of significance.	

Appendix B
Time Series Statistics

DissolvedSolids-mw-65	
General Statistics	
Number of Events Reported (m)	29
Number of Missing Events	3
Number or Reported Events Used	26
Number Values Reported (n)	29
Number Values Missing	3
Number Values Used	26
Minimum	540
Maximum	1900
Mean	1052
Geometric Mean	1026
Median	1000
Standard Deviation	251.5
Coefficient of Variation	0.239
Mann-Kendall Test	
M-K Test Value (S)	-143
Critical Value (0.05)	-1.645
Standard Deviation of S	44.52
Standardized Value of S	-3.189
Approximate p-value	7.1301E-4
Statistically significant evidence of a decreasing	
trend at the specified level of significance.	

Appendix B
Goodness of Fit Statistics

Minimum	480
Maximum	590
Mean of Raw Data	528.9
Standard Deviation of Raw Data	27.64
Khat	384.3
Theta hat	1.376
Kstar	341.6
Theta star	1.548
Mean of Log Transformed Data	6.269
Standard Deviation of Log Transformed Data	0.0519
Normal GOF Test Results	
Correlation Coefficient R	0.979
Shapiro Wilk Test Statistic	0.955
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.307
Lilliefors Test Statistic	0.151
Lilliefors Critical (0.05) Value	0.167
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.981
A-D Test Statistic	0.485
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.143
K-S Critical(0.05) Value	0.168
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.983
Shapiro Wilk Test Statistic	0.961
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	0.414
Lilliefors Test Statistic	0.141
Lilliefors Critical (0.05) Value	0.167
Data appear Lognormal at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Calcium (mw-63)	
Raw Statistics	
Number of Valid Observations	27
Number of Missing Observations	2
Number of Distinct Observations	13
Minimum	310
Maximum	580
Mean of Raw Data	508.9
Standard Deviation of Raw Data	57.8
Khat	67.36
Theta hat	7.555
Kstar	59.9
Theta star	8.496
Mean of Log Transformed Data	6.225
Standard Deviation of Log Transformed Data	0.13
Normal GOF Test Results	
Correlation Coefficient R	0.884
Shapiro Wilk Test Statistic	0.797
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	6.4923E-5
Lilliefors Test Statistic	0.254
Lilliefors Critical (0.05) Value	0.167
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.864
A-D Test Statistic	2.244
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.274
K-S Critical(0.05) Value	0.168
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.845
Shapiro Wilk Test Statistic	0.733
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	3.7605E-6
Lilliefors Test Statistic	0.284
Lilliefors Critical (0.05) Value	0.167
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Calcium (mw-64)	
Raw Statistics	
Number of Valid Observations	26
Number of Distinct Observations	12
Minimum	72
Maximum	93
Mean of Raw Data	85.38
Standard Deviation of Raw Data	5.397
Khat	246.8
Theta hat	0.346
Kstar	218.4
Theta star	0.391
Mean of Log Transformed Data	4.445
Standard Deviation of Log Transformed Data	0.0658
Normal GOF Test Results	
Correlation Coefficient R	0.93
Shapiro Wilk Test Statistic	0.864
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.0023
Lilliefors Test Statistic	0.202
Lilliefors Critical (0.05) Value	0.17
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.922
A-D Test Statistic	1.472
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.211
K-S Critical(0.05) Value	0.171

Data not Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.92
Shapiro Wilk Test Statistic	0.845
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	8.8116E-4
Lilliefors Test Statistic	0.216
Lilliefors Critical (0.05) Value	0.17

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

Calcium (mw-65)

Raw Statistics

Number of Valid Observations	26
Number of Missing Observations	3
Number of Distinct Observations	14
Minimum	82
Maximum	200
Mean of Raw Data	111.2
Standard Deviation of Raw Data	27.34
Khat	21.49
Theta hat	5.175
Kstar	19.04
Theta star	5.842
Mean of Log Transformed Data	4.688
Standard Deviation of Log Transformed Data	0.21

Appendix B
Goodness of Fit Statistics

Normal GOF Test Results	
Correlation Coefficient R	0.858
Shapiro Wilk Test Statistic	0.748
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	9.9776E-6
Lilliefors Test Statistic	0.326
Lilliefors Critical (0.05) Value	0.17
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.898
A-D Test Statistic	2.011
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.299
K-S Critical(0.05) Value	0.171
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.907
Shapiro Wilk Test Statistic	0.83
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	4.1248E-4
Lilliefors Test Statistic	0.284
Lilliefors Critical (0.05) Value	0.17
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Chloride (mw-62)	
Raw Statistics	
Number of Valid Observations	24
Number of Missing Observations	5
Number of Distinct Observations	8

Appendix B
Goodness of Fit Statistics

Minimum	82
Maximum	180
Mean of Raw Data	125.9
Standard Deviation of Raw Data	22.32
Khat	35.07
Theta hat	3.589
Kstar	30.72
Theta star	4.098
Mean of Log Transformed Data	4.821
Standard Deviation of Log Transformed Data	0.172
Normal GOF Test Results	
Correlation Coefficient R	0.94
Shapiro Wilk Test Statistic	0.893
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	0.0144
Lilliefors Test Statistic	0.218
Lilliefors Critical (0.05) Value	0.177
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.954
A-D Test Statistic	0.87
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.194
K-S Critical(0.05) Value	0.177
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.957
Shapiro Wilk Test Statistic	0.927
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	0.0849
Lilliefors Test Statistic	0.185
Lilliefors Critical (0.05) Value	0.177
Data appear Approximate_Lognormal at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Chloride (mw-63)	
Raw Statistics	
Number of Valid Observations	24
Number of Missing Observations	5
Number of Distinct Observations	13
Minimum	77
Maximum	110
Mean of Raw Data	93.88
Standard Deviation of Raw Data	8.558
Khat	122.5
Theta hat	0.766
Kstar	107.2
Theta star	0.875
Mean of Log Transformed Data	4.538
Standard Deviation of Log Transformed Data	0.093
Normal GOF Test Results	
Correlation Coefficient R	0.974
Shapiro Wilk Test Statistic	0.945
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	0.219
Lilliefors Test Statistic	0.154
Lilliefors Critical (0.05) Value	0.177
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.971
A-D Test Statistic	0.572
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.153
K-S Critical(0.05) Value	0.177
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.969
Shapiro Wilk Test Statistic	0.936
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	0.135
Lilliefors Test Statistic	0.154
Lilliefors Critical (0.05) Value	0.177
Data appear Lognormal at (0.05) Significance Level	
Chloride (mw-64)	
Raw Statistics	
Number of Valid Observations	24
Number of Missing Observations	2
Number of Distinct Observations	8
Minimum	44
Maximum	53
Mean of Raw Data	50.88
Standard Deviation of Raw Data	2.29
Khat	490.2
Theta hat	0.104
Kstar	428.9
Theta star	0.119
Mean of Log Transformed Data	3.928
Standard Deviation of Log Transformed Data	0.0467
Normal GOF Test Results	
Correlation Coefficient R	0.898
Shapiro Wilk Test Statistic	0.81
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	2.6429E-4
Lilliefors Test Statistic	0.23
Lilliefors Critical (0.05) Value	0.177
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.891
A-D Test Statistic	1.66

Appendix B
Goodness of Fit Statistics

A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.236
K-S Critical(0.05) Value	0.177
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.888
Shapiro Wilk Test Statistic	0.794
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	1.3274E-4
Lilliefors Test Statistic	0.238
Lilliefors Critical (0.05) Value	0.177
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Chloride (mw-65)	
Raw Statistics	
Number of Valid Observations	24
Number of Missing Observations	5
Number of Distinct Observations	12
Minimum	48
Maximum	140
Mean of Raw Data	59.21
Standard Deviation of Raw Data	18.52
Khat	17.33
Theta hat	3.416
Kstar	15.2
Theta star	3.896
Mean of Log Transformed Data	4.052
Standard Deviation of Log Transformed Data	0.22
Normal GOF Test Results	
Correlation Coefficient R	0.667

Appendix B
Goodness of Fit Statistics

Shapiro Wilk Test Statistic	0.473
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	2.0088E-9
Lilliefors Test Statistic	0.34
Lilliefors Critical (0.05) Value	0.177
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.73
A-D Test Statistic	3.886
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.338
K-S Critical(0.05) Value	0.178
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.75
Shapiro Wilk Test Statistic	0.588
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	6.3326E-8
Lilliefors Test Statistic	0.33
Lilliefors Critical (0.05) Value	0.177
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (mw-62)	
Raw Statistics	
Number of Valid Observations	27
Number of Missing Observations	2
Number of Distinct Observations	6
Minimum	1.2
Maximum	3.3
Mean of Raw Data	1.533

Appendix B
Goodness of Fit Statistics

Standard Deviation of Raw Data	0.385
Khat	24.37
Theta hat	0.0629
Kstar	21.69
Theta star	0.0707
Mean of Log Transformed Data	0.407
Standard Deviation of Log Transformed Data	0.19
Normal GOF Test Results	
Correlation Coefficient R	0.722
Shapiro Wilk Test Statistic	0.555
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	4.8114E-9
Lilliefors Test Statistic	0.32
Lilliefors Critical (0.05) Value	0.167
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.764
A-D Test Statistic	2.636
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.279
K-S Critical(0.05) Value	0.168
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.824
Shapiro Wilk Test Statistic	0.709
Shapiro Wilk Critical (0.05) Value	0.923
Approximate Shapiro Wilk P Value	1.3497E-6
Lilliefors Test Statistic	0.258
Lilliefors Critical (0.05) Value	0.167
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	

Appendix B
Goodness of Fit Statistics

Data do not follow a discernible distribution at (0.05) Level of Significance

Fluoride (mw-63)

Raw Statistics	
Number of Valid Observations	26
Number of Missing Observations	3
Number of Distinct Observations	10
Minimum	0.28
Maximum	2.5
Mean of Raw Data	1.892
Standard Deviation of Raw Data	0.394
Khat	10.78
Theta hat	0.176
Kstar	9.558
Theta star	0.198
Mean of Log Transformed Data	0.59
Standard Deviation of Log Transformed Data	0.396

Normal GOF Test Results	
Correlation Coefficient R	0.836
Shapiro Wilk Test Statistic	0.733
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	5.3826E-6
Lilliefors Test Statistic	0.216
Lilliefors Critical (0.05) Value	0.17

Data not Normal at (0.05) Significance Level

Gamma GOF Test Results	
Correlation Coefficient R	0.795
A-D Test Statistic	3.74
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.295
K-S Critical(0.05) Value	0.171

Data not Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.647
Shapiro Wilk Test Statistic	0.455
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	3.722E-10
Lilliefors Test Statistic	0.342
Lilliefors Critical (0.05) Value	0.17

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

Fluoride (mw-64)

Raw Statistics	
Number of Valid Observations	26
Number of Distinct Observations	4
Minimum	1.3
Maximum	1.6
Mean of Raw Data	1.431
Standard Deviation of Raw Data	0.0736
Khat	393
Theta hat	0.00364
Kstar	347.6
Theta star	0.00412
Mean of Log Transformed Data	0.357
Standard Deviation of Log Transformed Data	0.0515

Normal GOF Test Results	
Correlation Coefficient R	0.919
Shapiro Wilk Test Statistic	0.848
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	9.9194E-4
Lilliefors Test Statistic	0.277
Lilliefors Critical (0.05) Value	0.17

Data not Normal at (0.05) Significance Level

Appendix B
Goodness of Fit Statistics

Gamma GOF Test Results	
Correlation Coefficient R	0.92
A-D Test Statistic	2.076
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.275
K-S Critical(0.05) Value	0.171
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.919
Shapiro Wilk Test Statistic	0.847
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	9.4948E-4
Lilliefors Test Statistic	0.27
Lilliefors Critical (0.05) Value	0.17
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (mw-65)	
Raw Statistics	
Number of Valid Observations	26
Number of Missing Observations	3
Number of Distinct Observations	7
Minimum	1.5
Maximum	2.1
Mean of Raw Data	1.854
Standard Deviation of Raw Data	0.165
Khat	124.3
Theta hat	0.0149
Kstar	110
Theta star	0.0169
Mean of Log Transformed Data	0.613
Standard Deviation of Log Transformed Data	0.0927

Appendix B
Goodness of Fit Statistics

Normal GOF Test Results	
Correlation Coefficient R	0.948
Shapiro Wilk Test Statistic	0.892
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.0101
Lilliefors Test Statistic	0.196
Lilliefors Critical (0.05) Value	0.17
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.938
A-D Test Statistic	1.191
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.197
K-S Critical(0.05) Value	0.171
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.941
Shapiro Wilk Test Statistic	0.878
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.00472
Lilliefors Test Statistic	0.198
Lilliefors Critical (0.05) Value	0.17
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Sulfate (mw-62)	
Raw Statistics	
Number of Valid Observations	24
Number of Missing Observations	5

Appendix B
Goodness of Fit Statistics

Number of Distinct Observations	8
Minimum	2800
Maximum	4000
Mean of Raw Data	3392
Standard Deviation of Raw Data	224.4
Khat	239.4
Theta hat	14.17
Kstar	209.5
Theta star	16.19
Mean of Log Transformed Data	8.127
Standard Deviation of Log Transformed Data	0.0661
Normal GOF Test Results	
Correlation Coefficient R	0.924
Shapiro Wilk Test Statistic	0.881
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	0.00776
Lilliefors Test Statistic	0.216
Lilliefors Critical (0.05) Value	0.177
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.931
A-D Test Statistic	1.234
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.219
K-S Critical(0.05) Value	0.177
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.923
Shapiro Wilk Test Statistic	0.88
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	0.00739
Lilliefors Test Statistic	0.226
Lilliefors Critical (0.05) Value	0.177

Appendix B
Goodness of Fit Statistics

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

Sulfate (mw-63)

Raw Statistics	
Number of Valid Observations	24
Number of Missing Observations	5
Number of Distinct Observations	11
Minimum	1500
Maximum	4300
Mean of Raw Data	2654
Standard Deviation of Raw Data	486.3
Khat	31.23
Theta hat	84.99
Kstar	27.35
Theta star	97.04
Mean of Log Transformed Data	7.868
Standard Deviation of Log Transformed Data	0.186

Normal GOF Test Results	
Correlation Coefficient R	0.87
Shapiro Wilk Test Statistic	0.794
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	1.3446E-4
Lilliefors Test Statistic	0.265
Lilliefors Critical (0.05) Value	0.177

Data not Normal at (0.05) Significance Level

Gamma GOF Test Results	
Correlation Coefficient R	0.875
A-D Test Statistic	1.895
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.246

Appendix B
Goodness of Fit Statistics

K-S Critical(0.05) Value	0.177
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.882
Shapiro Wilk Test Statistic	0.813
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	3.1150E-4
Lilliefors Test Statistic	0.245
Lilliefors Critical (0.05) Value	0.177
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Sulfate (mw-64)	
Raw Statistics	
Number of Valid Observations	24
Number of Missing Observations	2
Number of Distinct Observations	12
Minimum	270
Maximum	870
Mean of Raw Data	360.4
Standard Deviation of Raw Data	113.8
Khat	17.31
Theta hat	20.82
Kstar	15.18
Theta star	23.75
Mean of Log Transformed Data	5.858
Standard Deviation of Log Transformed Data	0.22
Normal GOF Test Results	
Correlation Coefficient R	0.676
Shapiro Wilk Test Statistic	0.49
Shapiro Wilk Critical (0.05) Value	0.916

Appendix B
Goodness of Fit Statistics

Approximate Shapiro Wilk P Value	3.2474E-9
Lilliefors Test Statistic	0.356
Lilliefors Critical (0.05) Value	0.177
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.726
A-D Test Statistic	2.721
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.298
K-S Critical(0.05) Value	0.178
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.797
Shapiro Wilk Test Statistic	0.666
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	8.9315E-7
Lilliefors Test Statistic	0.27
Lilliefors Critical (0.05) Value	0.177
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Sulfate (mw-65)	
Raw Statistics	
Number of Valid Observations	24
Number of Missing Observations	5
Number of Distinct Observations	17
Minimum	350
Maximum	980
Mean of Raw Data	504.6
Standard Deviation of Raw Data	149.4
Khat	15.27

Appendix B
Goodness of Fit Statistics

Theta hat	33.04
Kstar	13.39
Theta star	37.68
Mean of Log Transformed Data	6.191
Standard Deviation of Log Transformed Data	0.248
Normal GOF Test Results	
Correlation Coefficient R	0.852
Shapiro Wilk Test Statistic	0.738
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	1.2801E-5
Lilliefors Test Statistic	0.346
Lilliefors Critical (0.05) Value	0.177
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.898
A-D Test Statistic	2.018
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.313
K-S Critical(0.05) Value	0.178
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.906
Shapiro Wilk Test Statistic	0.828
Shapiro Wilk Critical (0.05) Value	0.916
Approximate Shapiro Wilk P Value	6.0260E-4
Lilliefors Test Statistic	0.295
Lilliefors Critical (0.05) Value	0.177
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	

Appendix B
Goodness of Fit Statistics

DissolvedSolids (mw-62)	
Raw Statistics	
Number of Valid Observations	26
Number of Missing Observations	3
Number of Distinct Observations	13
Minimum	2400
Maximum	6700
Mean of Raw Data	5588
Standard Deviation of Raw Data	777.9
Khat	37.22
Theta hat	150.1
Kstar	32.95
Theta star	169.6
Mean of Log Transformed Data	8.615
Standard Deviation of Log Transformed Data	0.185
Normal GOF Test Results	
Correlation Coefficient R	0.827
Shapiro Wilk Test Statistic	0.717
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	2.8490E-6
Lilliefors Test Statistic	0.25
Lilliefors Critical (0.05) Value	0.17
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.807
A-D Test Statistic	2.955
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.285
K-S Critical(0.05) Value	0.171
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.732

Appendix B
Goodness of Fit Statistics

Shapiro Wilk Test Statistic	0.572
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	1.4325E-8
Lilliefors Test Statistic	0.301
Lilliefors Critical (0.05) Value	0.17
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
DissolvedSolids (mw-63)	
Raw Statistics	
Number of Valid Observations	26
Number of Missing Observations	3
Number of Distinct Observations	10
Minimum	2500
Maximum	4700
Mean of Raw Data	4238
Standard Deviation of Raw Data	471.7
Khat	67.07
Theta hat	63.19
Kstar	59.36
Theta star	71.4
Mean of Log Transformed Data	8.344
Standard Deviation of Log Transformed Data	0.132
Normal GOF Test Results	
Correlation Coefficient R	0.816
Shapiro Wilk Test Statistic	0.685
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	7.9261E-7
Lilliefors Test Statistic	0.314
Lilliefors Critical (0.05) Value	0.17
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.794
A-D Test Statistic	3.395
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.333
K-S Critical(0.05) Value	0.171

Data not Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.772
Shapiro Wilk Test Statistic	0.619
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	6.9848E-8
Lilliefors Test Statistic	0.341
Lilliefors Critical (0.05) Value	0.17

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

DissolvedSolids (mw-64)

Raw Statistics

Number of Valid Observations	26
Number of Distinct Observations	11
Minimum	660
Maximum	890
Mean of Raw Data	781.2
Standard Deviation of Raw Data	46.16
Khat	288.3
Theta hat	2.71
Kstar	255.1
Theta star	3.063
Mean of Log Transformed Data	6.659
Standard Deviation of Log Transformed Data	0.0606

Normal GOF Test Results

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.915
Shapiro Wilk Test Statistic	0.857
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.00156
Lilliefors Test Statistic	0.259
Lilliefors Critical (0.05) Value	0.17

Data not Normal at (0.05) Significance Level

Gamma GOF Test Results

Correlation Coefficient R	0.914
A-D Test Statistic	1.973
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.267
K-S Critical(0.05) Value	0.171

Data not Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.907
Shapiro Wilk Test Statistic	0.843
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	7.6671E-4
Lilliefors Test Statistic	0.271
Lilliefors Critical (0.05) Value	0.17

Data not Lognormal at (0.05) Significance Level

Non-parametric GOF Test Results

Data do not follow a discernible distribution at (0.05) Level of Significance

DissolvedSolids (mw-65)

Raw Statistics

Number of Valid Observations	26
Number of Missing Observations	3
Number of Distinct Observations	14
Minimum	540

Appendix B
Goodness of Fit Statistics

Maximum	1900
Mean of Raw Data	1052
Standard Deviation of Raw Data	251.5
Khat	20.3
Theta hat	51.83
Kstar	17.98
Theta star	58.5
Mean of Log Transformed Data	6.934
Standard Deviation of Log Transformed Data	0.225
Normal GOF Test Results	
Correlation Coefficient R	0.884
Shapiro Wilk Test Statistic	0.81
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	1.5953E-4
Lilliefors Test Statistic	0.274
Lilliefors Critical (0.05) Value	0.17
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.911
A-D Test Statistic	1.811
A-D Critical (0.05) Value	0.744
K-S Test Statistic	0.253
K-S Critical(0.05) Value	0.171
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.912
Shapiro Wilk Test Statistic	0.863
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.00212
Lilliefors Test Statistic	0.238
Lilliefors Critical (0.05) Value	0.17
Data not Lognormal at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Field_pH (mw-62)	
Raw Statistics	
Number of Valid Observations	28
Number of Missing Observations	1
Number of Distinct Observations	23
Minimum	6.36
Maximum	7.4
Mean of Raw Data	6.629
Standard Deviation of Raw Data	0.216
Khat	1009
Theta hat	0.00657
Kstar	901.1
Theta star	0.00736
Mean of Log Transformed Data	1.891
Standard Deviation of Log Transformed Data	0.0318
Normal GOF Test Results	
Correlation Coefficient R	0.923
Shapiro Wilk Test Statistic	0.867
Shapiro Wilk Critical (0.05) Value	0.924
Approximate Shapiro Wilk P Value	0.0018
Lilliefors Test Statistic	0.142
Lilliefors Critical (0.05) Value	0.164
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.929
A-D Test Statistic	0.721
A-D Critical (0.05) Value	0.743
K-S Test Statistic	0.133
K-S Critical(0.05) Value	0.165
Data appear Gamma Distributed at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Lognormal GOF Test Results	
Correlation Coefficient R	0.933
Shapiro Wilk Test Statistic	0.883
Shapiro Wilk Critical (0.05) Value	0.924
Approximate Shapiro Wilk P Value	0.00446
Lilliefors Test Statistic	0.134
Lilliefors Critical (0.05) Value	0.164
Data appear Approximate_Lognormal at (0.05) Significance Level	
Field_pH (mw-63)	
Raw Statistics	
Number of Valid Observations	29
Number of Distinct Observations	25
Minimum	6.53
Maximum	7.21
Mean of Raw Data	6.793
Standard Deviation of Raw Data	0.167
Khat	1732
Theta hat	0.00392
Kstar	1553
Theta star	0.00438
Mean of Log Transformed Data	1.916
Standard Deviation of Log Transformed Data	0.0244
Normal GOF Test Results	
Correlation Coefficient R	0.983
Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical (0.05) Value	0.926
Approximate Shapiro Wilk P Value	0.416
Lilliefors Test Statistic	0.108
Lilliefors Critical (0.05) Value	0.161
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	

Appendix B
Goodness of Fit Statistics

Correlation Coefficient R	0.985
A-D Test Statistic	0.295
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.102
K-S Critical(0.05) Value	0.162
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.985
Shapiro Wilk Test Statistic	0.966
Shapiro Wilk Critical (0.05) Value	0.926
Approximate Shapiro Wilk P Value	0.495
Lilliefors Test Statistic	0.104
Lilliefors Critical (0.05) Value	0.161
Data appear Lognormal at (0.05) Significance Level	
Field_pH (mw-64)	
Raw Statistics	
Number of Valid Observations	26
Number of Distinct Observations	20
Minimum	7.22
Maximum	7.68
Mean of Raw Data	7.452
Standard Deviation of Raw Data	0.126
Khat	3659
Theta hat	0.00204
Kstar	3237
Theta star	0.0023
Mean of Log Transformed Data	2.008
Standard Deviation of Log Transformed Data	0.0169
Normal GOF Test Results	
Correlation Coefficient R	0.988
Shapiro Wilk Test Statistic	0.966
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.541

Appendix B
Goodness of Fit Statistics

Lilliefors Test Statistic	0.101
Lilliefors Critical (0.05) Value	0.17
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.987
A-D Test Statistic	0.355
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.108
K-S Critical(0.05) Value	0.171
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.988
Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical (0.05) Value	0.92
Approximate Shapiro Wilk P Value	0.532
Lilliefors Test Statistic	0.101
Lilliefors Critical (0.05) Value	0.17
Data appear Lognormal at (0.05) Significance Level	
Field_pH (mw-65)	
Raw Statistics	
Number of Valid Observations	29
Number of Distinct Observations	23
Minimum	6.96
Maximum	8.27
Mean of Raw Data	7.256
Standard Deviation of Raw Data	0.235
Khat	1040
Theta hat	0.00697
Kstar	932.8
Theta star	0.00778
Mean of Log Transformed Data	1.981
Standard Deviation of Log Transformed Data	0.0311

Appendix B
Goodness of Fit Statistics

Normal GOF Test Results	
Correlation Coefficient R	0.835
Shapiro Wilk Test Statistic	0.729
Shapiro Wilk Critical (0.05) Value	0.926
Approximate Shapiro Wilk P Value	1.4205E-6
Lilliefors Test Statistic	0.191
Lilliefors Critical (0.05) Value	0.161
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.844
A-D Test Statistic	1.739
A-D Critical (0.05) Value	0.742
K-S Test Statistic	0.18
K-S Critical(0.05) Value	0.162
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.851
Shapiro Wilk Test Statistic	0.755
Shapiro Wilk Critical (0.05) Value	0.926
Approximate Shapiro Wilk P Value	4.6961E-6
Lilliefors Test Statistic	0.18
Lilliefors Critical (0.05) Value	0.161
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	

APPENDIX

N

SEMI-ANNUAL REPORT DOCUMENTING PROGRESS ON REMEDY SELECTION MULTIUNIT 1 AND THE UPPER RETENTION SUMP

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Re: SEMIANNUAL REPORT DOCUMENTING PROGRESS IN REMEDY SELECTION MULTIUNIT 1 AND THE UPPER RETENTION SUMP
Four Corners Power Plant - Fruitland, New Mexico

In accordance with 40 Code of Federal Regulations (CFR) Section (§) 257.97(a) of the Coal Combustion Residuals (CCR) Rule, this Semiannual Remedy Selection Progress Report (Semiannual Report) has been prepared on behalf of Arizona Public Service Company (APS) to document progress in selection of remedies for CCR units which have been identified as potentially impacting groundwater at the APS Four Corners Power Plant, located in Fruitland, New Mexico (the Site). Applicable Site CCR units include Multiunit 1 (comprised of the Lined Ash Impoundment and the Lined Decant Water Pond) and the Upper Retention Sump (URS). Semiannual progress reporting to support remedy selection began on July 15, 2019. The most recent update was provided in the *Annual Groundwater Monitoring and Corrective Action Report (GMCAR) for 2021*, dated January 31, 2022. This Semiannual Report serves as the seventh update on remedy selection progress at the site and documents activities completed to date in 2022.

1. Summary of Activities Completed in 2022

Activities completed by APS in the first half of 2022 in support of remedy selection for Multiunit 1 and the URS include the following:

- *Four Corners Sampling and Analysis Plan Update*. The Site Sampling and Analysis Plan (SAP), last updated in 2018, was reissued to reflect changes to the monitoring program since the update. These changes include the transition of units within the monitoring program (including Multiunit 1 and the URS into corrective action), and subsequent sampling requirements pursuant to CFR § 257.96(b). Any further sampling requirements, such as those necessary to support remedy implementation, will be included in a future addendum to the SAP.
- *Site-Wide Split Sampling*. During the first 2022 semiannual monitoring event, split sampling was conducted for select sample locations (including at Multiunit 1 and the URS) to evaluate the accuracy and precision of analyses executed by the primary laboratory, Eurofins. Eurofins has served as the primary laboratory for water quality analysis since CCR monitoring began at the Site. The results of the split sampling and any recommendations for a possible laboratory transition will be presented in the 2022 GMCAR.
- *Groundwater Monitoring at Multiunit 1 and the URS*. Monitoring requirements pursuant to CFR § 257.95 have continued at both Multiunit 1 and the URS at a minimum on a semiannual basis. Monitoring of supplementary wells and additional water quality constituents in the vicinity of Multiunit 1 began in 2020 during the semiannual CCR monitoring events. This additional monitoring continued through 2021. Based

on evaluation of data through early 2021, further quarterly monitoring of a condensed list of constituents at select well locations was recommended for Multiunit 1. This quarterly monitoring was implemented during the December 2021 semiannual monitoring event at Four Corners, with transducers also deployed in select wells to assess water level changes within the area downgradient of the intercept trench located downgradient of Multiunit 1 and near Chaco Wash. The second and third subsequent quarterly Multiunit monitoring events were conducted during the first half of 2022 along with the first 2022 semiannual Site-wide CCR monitoring event. The final Multiunit quarterly monitoring event will occur early in the latter half of 2022. The additional monitoring has been conducted to evaluate groundwater conditions within the area of Multiunit 1 and downgradient of the southern intercept trench (SIT) system to assess both spatially and temporally heterogenous concentrations of cobalt and molybdenum in select monitoring wells. Updated evaluations of the quarterly and semiannual monitoring event data are expected to be included in remedy selection reporting and the 2022 GMCAR.

- *Continued Evaluation of Exceedances at MW-87*. Since being installed in late 2018, cobalt and molybdenum have also been noted to intermittently exceed respective groundwater protection standards (GWPSs) in MW-87. Although the last exceedances of cobalt and molybdenum GWPSs occurred in November 2021 and June 2019 respectively, lithium concentrations in MW-87 have recently been increasing and exceedances of the lithium GWPS have been noted since November 2021. Evaluation of monitoring data collected to date (including additional monitoring described above) has been inconclusive and quarterly monitoring at MW-87 will continue into the latter half of 2022. The evaluation of analytical data from MW-87 will be summarized where applicable in remedy selection reporting and the 2022 GMCAR. Collection of surface water samples from Chaco Wash may also be warranted to evaluate the potential for the surface water to affect groundwater quality at MW-87 and likely other wells near the wash (see section below).
- *Chaco Wash Stream Gauge Installation Report*. Following successful installation of a stream gauging station within Chaco Wash in late 2021, an installation report and final drawing of the station have been completed. Once the station is online, stream stage data will provide comparisons to nearby groundwater elevations, insights into seasonal flow patterns, and inform ideal timeframes to collect Chaco Wash surface water samples (as mentioned above).
- *Operation of Extraction Wells at the URS*. In 2019 two extraction wells (CM-01, CM-02) were installed downgradient of the URS. To date, design and construction has been completed for a pilot-scale seepage extraction system for CM-01 and CM-02 to convey extracted water to a sump that discharges into the new Upper Retention Tank. This system is considered a corrective measures pilot study to evaluate the effectiveness of targeted extraction of groundwater downgradient of the URS with elevated fluoride concentrations. Transducers were installed in several wells around the URS and extraction system to monitor water level changes as the system became operational in early 2022. The pilot study also serves as an interim response measure and will inform remedy selection and design to address groundwater impacts at the URS.
- *Ongoing Operation of the Multiunit 1 SIT*. Operation of the existing SIT has continued into 2022 and will continue throughout the year as part of interim response measures at Multiunit 1. Annual contaminant mass removal estimates from the seepage collection system will be calculated and included in the 2022 GMCAR.

2. Future Planned Activities

APS plans to perform the following activities in support of remedy selection during the second half of 2022 (and in upcoming years, as noted):

- *Four Corners Statistical Data Analysis Work Plan*. The Site Statistical Data Analysis Work Plan (SDAWP) will be updated to include statistical evaluations to support units in corrective action (the Multiunit 1 and URS) and unit closure as needed. Statistical analyses will also be conducted for any noted Appendix IV

groundwater protection standard (GWPS) exceedances that are not currently constituents of concern (for which the Multiunit 1 or URS was originally phased into corrective action).

- *Construction Completion Report and Evaluation of URS Seepage Extraction Pilot Study*. A report summarizing construction and initial study activities of the pilot-scale seepage extraction system for the URS (section 1 above) will be completed early in the second half of 2022. A performance evaluation of the system and assessment of the data from transducers deployed in wells in the area will be summarized in the 2022 GMCAR.
- *Continued Operation of the Multiunit 1 SIT*. The seepage intercept system at Multiunit 1 will continue to serve as part of interim response measures until remedial activities begin. The seepage collection system will also likely be a part of final selected remedies.
- *Public Meeting*. APS will conduct a public meeting with interested and affected parties at least 30 days prior to selection of remedies for Multiunit 1 and the URS pursuant to 40 CFR §257.96(e). The public meeting is expected to take place during the second half of 2022 and will be documented in the 2022 GMCAR.
- *Remedy Selection Reports for Multiunit 1 and the URS*. After a public meeting to discuss the results of the corrective measures assessment occurs, APS will prepare a remedy selection report for each CCR unit which will document how the selected remedy will meet the requirements of 40 CFR §257.97(b).
- *Initiation of Remedial Activities*. Upon completion of the Multiunit 1 and URS Remedy Selection Reports, within 90 days APS will initiate and begin documentation of remedial activities for each CCR unit pursuant to 40 CFR §257.98(a).

Respectfully submitted,
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